

NATIONAL LIBRARY OF MEDICINE



NLM 00101520 7

LIBRARY OF MEDICINE

NATIONAL LIBRARY OF MEDICINE

and Welfare, Public

and Welfare, Public

and Welfare, Public

Health Service

Health, Education,

Health Service

Health, Education,

Health Service

Bethesda, Md.

U.S. Department of

Bethesda, Md.

U.S. Department of

Bethesda, Md.

U.S. Department of

Health, Education,

and Welfare, Public

Health Service

Bethesda, Md.

U.S. Department of

Health, Education,

Health Service

Bethesda, Md.

U.S. Department of

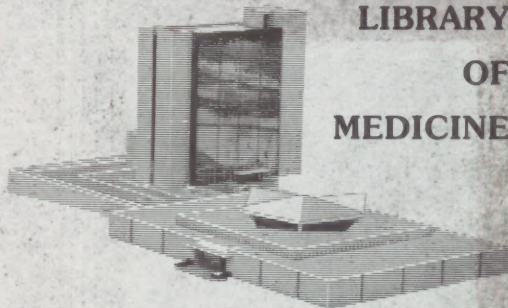
Health, Education,

Health Service

Bethesda, Md.

U.S. Department of

U.S. NATIONAL LIBRARY OF MEDICINE



RETURN TO
NATIONAL LIBRARY OF MEDICINE
BEFORE LAST DATE SHOWN

11
JUN 12 1985

MANUAL OF TREATMENT

157
A CONCISE PRESENTATION

OF THE

MODERN METHODS OF TREATING DISEASE

EMPLOYED BY THE BEST

AUTHORS, TEACHERS AND PRACTITIONERS

ARRANGED WITH SPECIAL REFERENCE TO THE NEEDS OF

AMERICAN PRACTITIONERS.

BY

C. F. TAYLOR, M. D., EDITOR OF *THE MEDICAL WORLD*.

AND

W. F. WAUGH, A. M., M. D.,

Professor of Practice and Clinical Medicine, in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital of Philadelphia; Member American Academy of Medicine; Academy of Natural Sciences; Microscopical and Biological Section; Vice-President of the Medico-Legal Society of Philadelphia; Late of U. S. Navy; etc., etc.



PUBLISHED BY

THE MEDICAL WORLD,

1520 CHESTNUT STREET, PHILADELPHIA, PA.

1887.

WBC

T237m

1887

Film no. 2868, no. 2

Entered according to Act of Congress in the year 1886, in the office of the Librarian
of Congress, at Washington, D. C.

PREFACE.

More than two years ago I became impressed with the great need and prospective usefulness of such a work as this.

I elaborated the plan, and in June, 1885, took advantage of a little spare time and began the preparation of it. Soon, however, pressing engagements compelled me to lay the manuscript aside, and I have not since had an opportunity to resume my labors upon it. A few months ago, I had the good fortune to induce my esteemed friend, Prof. Waugh, to revise and bring to date my manuscript (then more than a year old), and complete the work upon the lines originally laid down. It is my pleasure, then, to say that this book is the result chiefly of the extensive research and fine discrimination of Dr. Waugh.

It has been our object to present as tersely as possible, first the treatment generally recognized and used; second, any peculiar method of treatment used by any prominent author or practitioner. Prominence has been given to methods used by American authors and practitioners, although the work is by no means confined to native authors, but English, German, French, Italian and other sources have been drawn upon, whenever they offered valuable materials.

Our chief object is to save, on the part of the practitioner, the time, labor, and expense necessary to make the extensive researches, the results of which are here given.

In preparing the article upon each subject, the treatment which seemed most complete has been given first, and to save repetition, all matter contained in the first quotation is omitted from those which follow. Exceptions to this rule are made in cases where great diversity exists between various authors, as to the treatment of important diseases, such as apoplexy, or cerebro-spinal fever. Here, both sides are presented fully, with the array of authorities for each, that the reader may choose according to his estimate of the value to be assigned to the opinions of each author quoted.

As the tendency to simplification of orthography is becoming prevalent, dipthongs in such words as *amenia*, *hemorrhage*, etc., are discarded in this work.

C. F. TAYLOR.

1520 Chestnut St., Phila., October 15th, 1886.

AUTHORITIES QUOTED.

Abegg	Davis, N. S.	Hill, Berkeley	Mills, C. K.	Schwenninger
Agnew	Duplay	Hutchinson, J.	Mitchell, S. W.	Senator
Aitken	Deneffe [metz]	Heubner	Monell	Solis-Cohen
Albrecht	Dujardin-Beau-	Herring	Maragliano	Simpson
Allechin	Da Costa	Hoskins	Miguel	Sutton
Allingham	Despres	Huchard	Malgaigne	Simon
Althaus	Duncan, J. M.	Hiller	Muirhead	Siredy
Amann	Debove	Horion	Morton, N. K.	Squire, Balmanno
Anderson (McCall)	Daniel	Hall, Marshall	Marcet	Shoemaker, J. V.
Andrews	Durham	Hughes	Merkel	Silver
Anstie	Dewar	Haward	McGuire, H.	Schroeder
Aran	De Mussey	Hare	Naunyn	Stevensom
Arthius	Durande	Henoch	Nothnagel	Spitzka
Atkinson	De Zouche	Hamilton, A. W.	Nussbaum	Starr, M. A.
Balfour	Du Castel	" A. McLane	Napier	Schreiber
Barker (Fordyce)	De Sinety	Hay	Niemeyer	Secres
Barlow	Dobell	Higginbottom	Napheys	Sansom
Barnes	Duhring	Hueter	Obernier	Sweringen
Bartels	De Bordier	Haussman	Ord	Stewart, T. G.
Bartholow	Druitt	Hauck	Offenburg	Stille
Bartlett	Dachenne	Harvey	Oliver	Starr, Louis
Bastian	De Castro	Immermann	Ouchterlony	Séé, Germain
Beard	Day	Jones, Handfield	Oertel	Steere
Beck	Davidson	Jack	Powell	Salter
Bemiss	Davies	Johnson, W. B.	Pinkham	Stewart, W. S.
Béni-Bardi	Delafield	Joulin	Piffard	Sparks
Bennett	Eickholt	Judd	Pollock	Skoda
Berger	Edson	Jaccoud	Panas	Smith, E.
Bernard	Elsberg	Johnson, George	Parisel	Sedgwick
Bernardy	Eulenburg	Janney	Petit	Squibb
Betz	Erlenmeyer	Jolly	Prout	Thompson, E. S.
Biemer	Erb	Johnston	Poore	Thomas
Billroth	Ewart	Johnson, L.	Park	Tanner
Binz	Elliotson	Jewell	Parry	Trousseau
Birch-Hirschfeld	Easton	Jenks	Phillips	Tait [Henry]
Bird (Golding)	Evers	Jacobi, Mary P.	Pepper	Thompson, Sir
Birkett	Fraentzel	Juergensen	Powers	Traube
Blacquieres	Flint	Krull	Pancoast	Trastour
Boehm	Fournier	Kellogg	Palmer	Tyson
Bollinger	Fiedler	Keyes	Paul	Taylor, S.
Bosworth	Ferrer	Kunze	Playfair	Turnbull
Bouchardat	Ferrier	Kussmaul	Putzel	Thierfelder
Bouchut	Fayrer	Krause	Porter	Thin
Bowditch	Felzert	Klinger	Putnam	Thenard
Bretonneau	Fuller	Keiper	Pavy	Thompson, A.
Bristowe	Fonssagrives	Kurz	Phares	Tilt
Broadbent	Frerichs	Kiwisch	Quisac	Von Kraft-Ebbing
Brochard	Fox, E. L.	Klapp	Quincke	Van Harlingen
Brodhurst	Fauvel	Kaulz	Quain	Vogel
Brown	Fronmuller	Klebs	Roncati	Villemin
Brown-Séguard	Fothergill	Leichtenstern	Roberts, F. T.	Valette
Bruce	Firth	Loomis	Roberts, W.	Von Schueppel
Bruen	Fenwick	Laborde	Ringer	Van Bibber
Brunton (Lauder)	Foster, B.	Leach	Richards	Van Boeck
Buck	Fox, Wilson	Leyden	Ruth	Valleix
Buckler	Greenfield	Langenbeck	Riegel	Veiel
Budd	Gubler	Little	Rosenthal	Wunderlich
Bufalini	Gusserow	Leube	Rothrock	Waters
Burney	Gardner	Lee, H.	Riess	Watson
Buzzard	Gowers	Longstreth	Richardson	Williams
Carré	Greenhow	Lynch	Rosenstein	Weldon
Charcot	Garretson	Livingstone	Ricord	Willemin
Curling	Griswold	Lanquerel	Romberg	Wachsmuth
Callender	Gerhard	Leaman	Rouis	Weber
Carey	Goodman	Legg	Robinson, B.	White, J. W.
Orichton	Gazzo	Lange	Routh	Wardell
Cantani	Garrod	Leyden	Ramsey	Wilks
Coulson	Gilt	Lebert	Radeliffe	Ward
Clarke	Goodell	Lower	Remak	Walker
Calvi	Gee	Laycock	Reynolds	Woode, J. R.
Charrier	Gross, S. D.	Lewis, Louis	Rhode	Warria
Chambers	" S. W.	Liebermeister	Steiner	Woodbury
Christie	Guerder	Mosler	Sinkler	Wallace
Chandler	Granville	Macnamara	Schmidt	Wendt
Cutler	Green, T. H.	Mackenzie	Shapter	Winckel
Churchill	Gadbury	Meigs	Sudduth	Wilson, J. C.
Comegys	Godson	McClellan, E.	Schroetter	Wardell
Chapman	Hertz	Miller, H.	Stewart	Wells
Curschmann	Hebra	Marshall	Stoerk	Wood, H. C.
Clymer	Houssard	Miles	Seller	Wilson, Erasmus
Cormack	Hartshorne	Mercadie	Salisbury	Waring
Clark, Alonzo	Hammond	Macpherson	Smith, A. H.	Waldmann
" Andrew	Hayem	Murray, J.	" Q. C.	Yeo
Crothers	Huguenin	Milton	" J. L.	Yvaren
Cobbold	Hart & Barbour	Murchison	Sussdorf	Ziegler
Cooper	Hewitt	MacLagan	Stevens	Ziemssen
Curnow	Harrison	Mann	Sajous	Zuelzer
Czerwinski	Hilton	Maclean	Skorezewsky	

MANUAL OF TREATMENT.

ACNE.

The fact that this annoying affection occurs so frequently at the age of puberty, should lead us in all cases to investigate the condition of the sexual organs. If any undue sensitiveness exist in the urethra, a metallic sound should be passed every other day, and allowed to remain some minutes. In females, hot vaginal douches, with cold douches to the spine every morning, will frequently prove effective. Such measures will not preclude the use of such remedies as are prescribed by the dermatologists, and will often cure without the aid of the latter.

ERASMUS WILSON recommends that the exciting cause should first be sought and removed. The general health and the nutrition of the skin should be improved; diet, exercise, and other points in personal hygiene, should be carefully regulated. Tonics are indicated; especially **Fowler's solution** $\mathfrak{m}$ ij, ter in die, after meals, with wine of iron. [An objection to giving arsenic after meals is that it is apt to be lost in the contents of the stomach and voided; especially if iron be present, with which it forms an insoluble precipitate. When the two drugs are to be given together it is best to use the chloride of arsenic and tincture of iron.]

Locally:

R	Sulphuris hypochlorid.,.....	3 ij
	Potas. carb.,.....	gr. x
	Adipis benzöat.,.....	3 j
M.		

Simple though the above seems, yet general practitioners have much trouble with this disease. "Remove any exciting cause that may exist" involves vastly different means in different cases.

Constipation is frequently an exciting cause, and for this, saline laxatives, preferably in the form of mineral waters, are chosen. **Sulphurous waters** are vastly superior in this affection. If the exciting cause be a disturbance of the uterine functions, this must be corrected. **Aloetic purgatives** and warm hip baths are indicated when the eruption occurs in females at the age of puberty. Digestive difficulties must be met by appropriate measures. A simple, unstimulating, but nutritious diet is to be recommended. In plethoric cases some restrictions are necessary. A large proportion of cases will be found to depend upon a depraved condition of the blood, which will be materially benefited by the building-up remedies—tonics, cod liver oil, iron, etc. It will be seen that the general treatment must be determined by the indications in each particular case.

NIEMEYER, on the other hand, repudiates the use of internal remedies, and praises local medication. He recommends lotions of **potash, hydrarg. bichlorid., or benzoin**. He quotes VEIEL'S treatment approvingly; consisting in vigorous brushing with **soft soap** and a nail brush. Even if this should not succeed by itself, many authorities recommend its use previous to the application of ointments. Thus, HEBRA recommends vigorous scrubbing, followed by the application of a paste made by mixing **precipitated sulphur** with equal parts of alcohol, carbonate of soda, laurel water and glycerine. Nearly all authors recommend the applications to be left on over night. A popular formula in Germany is as follows:

R	Sulphur. precip.....	3 ij
	Camphoræ.....	gr. x
	Acaciæ pulv.....	gr. xx
	Aquæ calcis.....	
	Aquæ rosæ.....	āā flʒ ij

M. S.—Shake well. Apply at bed time, and next morning rub off without wetting.

The treatment pursued by BALMANNO SQUIRE differs with the varieties of the disease. In acne simplex, with deep red areolæ, he recommends low diet, salines, and vapor baths, with weak alcoholic lotions. When inflammation has subsided, he uses weak solutions of **bichloride of mercury**, gr. j ad ʒj. Amenorrhœa coinciding must receive appropriate treatment. In acne

indurata, he uses **sulphur ointment**. When the pustules are large, with livid areolæ, the **biniodide of mercury** (gr. v-xxx ad $\bar{3}$ j), is preferable. This should be used until the skin becomes tender, when it is to be suspended for a few days. **Chrysophanic acid** $\bar{5}$ ij to $\bar{3}$ j, is also recommended.

Acne rosacea, more than any other variety, demands attention to the digestion, etc. Uterine disease, intemperance, or sedentary habits may render our best efforts nugatory until corrected.

When the skin is much indurated, the **biniodide of mercury** is the best local remedy. The tubercles which show signs of suppurating should be freely lanced. **Cologne** is a useful lotion in acne punctata, after the contents have been evacuated. Stronger local stimulants are needful when the follicles gape widely open; such as **croton oil**, diluted with olive oil.

Acne oleosa demands the free use of **soft soap**, followed by astringents. SHOEMAKER treats obstinate forms by puncturing with a needle knife, and applying **oleate of zinc** or of **bismuth**, until irritation has subsided. When astringents are indicated he uses a weak ointment of **oleate of iron**.

PIFFARD suggests that **arsenious acid** (gr. $\frac{1}{20}$, t. i. d. in pill, before meals) is best suited to cases where the papules are indolent, not painful, slow in course and not tending to suppuration. **Sulphide of calcium** is the remedy in acute, sensitive, rapidly suppurating cases. The dose of the latter drug is one grain daily, in divided doses. **Bromide of arsenic** (gr. $\frac{1}{240}$ to $\frac{1}{60}$) occupies a middle ground between these two. The duration of the pustules is lessened by puncturing each, as soon as it appears. In acne indurata, when subacute, with large tubercles and much infiltration of the surrounding skin, mercury, phosphorus or the iodides will prove useful additions to the above. Soft soap, applied nightly until the patient refuses to bear it any longer, will reduce the infiltration.

VAN HARLINGEN lays stress upon the regulation of the general health, and uses iron, arsenic or mercury internally, as may be indicated. The **White Sulphur waters** have some reputation,

probably due to the pure air and surroundings. Sea air often aggravates acne.

SUMMARY.—1. Correct any derangement of the general health which a thorough examination may disclose.

2. Regulate the general and personal hygiene.

3. The vigorous application of **soft soap** is indicated in all cases except the rare acute form; but especially for infiltration.

4. Nearly all authors recommend **sulphur** ointments for ordinary cases; **mercurials** for severe ones.

5. Except when clearly indicated, internal remedies are rarely of use.

6. The disease is singularly obstinate; hence, changes in the treatment adopted after mature reflection, should not be made except for cause.

Ergot will cause the indurations to disappear quickly; but they will return when the drug is discontinued.

Electrolysis has not proved successful in our hands.

The benefit derived by lancing the pustules and scraping out the contents with a curette, has not been sufficient to atone for the pain.

The prolonged use of **strychnia** and **nitro-muriatic acid** sometimes effects a cure.

R Strychniæ,.....gr. j
 Acid. nitro-mur.....f3 iij
 Aquæ dest. q. s. ad.....f3v

M. S.—A teaspoonful in water before each meal.

We have more than once failed to benefit a patient until he abstained from malt liquors.

ADDISON'S DISEASE.

In the tubercular disease of the supra-renal glands, all we can attempt is to prolong life. It would be going too far, however, to affirm that no form of supra-renal disease occurs which is curable. Since we cannot always be sure that we have or have not an incurable form to deal with, it is our duty to put our

patients upon such a regimen as will give the best chance of recovery, if it be a curable case; and prolong life if incurable.

MERKEL says that patients do best with perfect rest from mental worry and from physical exertion. The diet should be rich in albumen. A good wine, with plenty of body, should be recommended, and in some cases the strong liquors. The gastric derangements must receive appropriate treatment. Purgatives do harm; mild salines good. Iron and quinine are useful; morphine is said to be beneficial, though it is difficult to see why it should be.

Iodide of potash and galvanism have also received the encomiums they usually obtain in incurable diseases; with the usual result.

SILVER states that cold or frozen food will be tolerated when hot substances are rejected. In certain stages, the pharmacopœia must be laid aside, and the cook-book substituted.

WILKS says that temporary improvement sometimes results from the administration of **phosphorus, chloride of calcium, or arsenic.**

NIEMEYER sums up the treatment in these words: good nourishment and careful nursing.

BARTHOLOW advises phosphorus in cod-liver oil, chloride of calcium, syrup of the iodides of iron and manganese, and arsenic.

GREENHOW reports decided improvement to have followed the administration of glycerine, f 3ij, spirits of chloroform and tincture of iron, āā ℥ xx, three times a day.

FLINT says that general **faradisation** and galvanisation of the sympathetic nerve was followed by improvement in all respects, which continued two years, when the patient suddenly failed and died in twenty-four hours.

ALBUMINURIA.

It is a great mistake to consider albuminuria and Bright's disease as synonymous. Albuminuria is but a symptom, and it

exists in many conditions as well as in Bright's disease. As a transient condition, it frequently follows the administration of chloroform, ether or the nitrite of amyl. It is often temporarily present in pneumonia, intermittents, rheumatic fever, scarlatina and cholera—in short the febrile and inflammatory diseases generally. It is present in inflammations of the urino-genital mucous membranes; and in urine containing pus or blood. Its persistent presence indicates structural disease of the kidneys.

Mechanical causes producing passive congestion of the kidneys give rise to albuminuria; among these are pregnancy, abdominal tumors, enlargements, etc., and cardiac and pulmonary diseases. The presence of albuminuria in pneumonia is probably more dependent upon mechanical obstruction, than upon the inflammatory and febrile condition.

It will be seen that its treatment, when this is necessary, must depend entirely upon the condition which gives rise to this symptom. Astringents that reach the urino-genital tract through the blood, as gallic and tannic acids, tincture of the chloride of iron, etc., reduce the quantity of albumen; ergot produces the same effect by diminishing the calibre of the arterioles.

When dependent upon mechanical causes, their removal, when possible, is of course the leading indication. Digitalis will be found very useful for passive congestion of the kidneys, particularly when dependent upon cardiac disease. It is best given in infusion. Squibb's tincture of digitalis will be found to be a reliable preparation; it may be given in doses of from three to as high as ten or more drops, three times a day. The warm bath is useful by attracting the blood from the interior to the surface of the body; cupping over the kidneys is also useful on the same principle. Hydragogue cathartics may be used with benefit. Iron, quinine and other tonics are important to improve the quality of the blood and strengthen the general system.

R Tinct. ferri chloridi.....℥ iv
 Quinina sulphat.gr. xxiv
 Syrupiq. s. ad ℥ iij

M. S.—A teaspoonful after each meal.

It is in pregnancy that albuminuria of the kind now under consideration is of the greatest consequence, and it should be met

as well as may be by the above measures (except ergot), until the cause is removed by parturition.

We have for many years been in the habit of directing pregnant women with albuminuria to drink half a gallon of **butter-milk** every day; and I have never had occasion to use any other treatment in such cases, nor have I had a puerperal convulsion occur to any of my patients.

Imperfect digestion has been noticed to give rise to albuminuria of a somewhat protracted character. In such cases LAUDER BRUNTON says that tonics and artificial digestive agents are indicated. The appearance of hæmoglobin in the urine of course indicates that albumen is also present. This depends upon the same condition which permits solution of the corpuscles in the blood. Quinine and general supporting measures are indicated.

ALCOHOLISM.

A.—DRUNKENNESS. BOEHM recommends the use of the stomach pump; as large amounts of alcohol often remain in the stomach. In alcoholic coma, when respiration fails, frictions, cold affusions, sinapisms, and other cutaneous irritants should be used.

LOOMIS recommends the stomach pump, energetic frictions, and **galvanism**; the latter in coma; for flatulence, the simple bitters.

NIEMEYER advises cold to the head, and irritant foot baths, especially brief ones of ice water.

WARING tells us to empty the stomach by means of emetics and the pump; to use cold affusions, a little ammonia, strong coffee, and subsequently, warmth.

CURNOW recommends for the acute gastric catarrh following a debauch, washing out the stomach with warm water; a mild saline; simple, fluid diet; no alcohol; and exercise, active or passive, according to the strength. For coma, the same treatment heretofore given, with faradisation.

NAPHEYS treats the irritable stomach with iced milk or ærated waters, lime water, or an ice bag to the epigastrium. Persistent retching calls for one drop doses of **Fowler's solution**. Nervous prostration and apprehension indicate the use of **nuxvomica**, fl. ext., gtt. v-xv, every four hours.

A. McL. HAMILTON, for the headache and wakefulness following a debauch, prescribes

R Camphor brom mono.....3 j
 Confect. rosæ, q. s.,.....

Ft. mas. et in pil. no. xij div.

S.—One or two as required.

B.—DELIRIUM TREMENS. BOEHM says that many cases do very well on nursing alone. This is all that is needed if the bodily condition be good and no complications exist. Opium is contra-indicated by a feeble heart. He attaches the utmost importance to the dietetic treatment, especially in tedious cases. The most careful management is requisite in order to recruit the strength.

LOOMIS confines the diet to milk. **Opium**, chloral, bromide of potash and henbane are used to produce sleep. **Tartar emetic** is sometimes used for this purpose. The delirium may require cautious inhalation of **chloroform**.

DAVIS claims that forty-nine out of fifty would recover with nursing, rest and nourishment, without medicine. An experienced nurse is to be secured. Restraint and argument excite these cases, and aggravate the trouble. The indications are to quiet the nerves and sustain the heart; hence, he advocates the use of bromides and digitalis.

R Potas. brom.,.....3 vj
 Tinct. digitalis,.....f3 v
 Elix. simp.,.....f3 ij
 Aquæ,.....f3 ij

M. S.—f3 ij, every two, three, or four hours.

In the early stages, if the above does not induce sleep, he gives **chloral**, gr. xv to xx, at 8 P. M., repeating at 10 P. M., if

needed. If the patient be feverish at the start, a few small doses of calomel are given, followed by a laxative saline. When the subject is too excited or suspicious to take medicine, it may be necessary to quiet him with a hypodermic of morphia and atropia. Great care is necessary, as narcotism is apt to occur. Nourishment is more important than medicine. Animal broths, milk, and mild farinaceous food are suitable. Carefully guard against too early return to work.

ROBERTS recommends that alcohol be stopped abruptly in young subjects, or first attacks; but that in subsequent seizures or in feeble persons it be withdrawn gradually.

If food be refused, the white of egg may be given in ice water. In robust cases a brisk hydragogue is useful at the start. To procure sleep, hypodermics of morphia, gr. $\frac{1}{8}$ to $\frac{1}{2}$; chloral internally, gr. xx every hour or two; bromide of potash, gr. xx every two hours; and cannabis Indica are recommended. He agrees, as a rule, that patients need not be "narcotized into sleep," but has met cases where the only chance of recovery seemed to be in procuring sleep, and where large doses of morphia, with good feeding, resulted in saving lives. Adynamia calls for ammonia, ether, musk, or camphor, with brandy. Pneumonia requires a supporting treatment.

TANNER believes that alcohol should only be given in exceptional cases. He gives ice and salines to cool the stomach, and albuminous foods to support the strength. A shower-bath sometimes gives so much relief that its repetition will be urgently demanded by the patient. Great depression calls for stimulants; to which Dover's powder, or opium and tartar emetic may be added. Constant delirium sometimes requires the cautious use of **chloroform** inhalations. He approves in some cases of the use of **digitalis**, as recommended by JONES, of Jersey, in $\tilde{3}$ ss doses of the tincture, repeated in four hours if necessary. The cases in which this drug has proved most useful are those in which the symptoms resemble those of acute mania, and in which there is not much exhaustion.

TROUSSEAU calls **chloral** a precious remedy in this disease. Thirty to forty-five grains are given by enema, and repeated if

necessary. He speaks of anesthetics as beneficial, and also of **digitalis**, stating that in ten years he lost but one case under its use; and that probably because he did not give the drug boldly enough. The same dose is given as noted above.

HOUSSARD recommends decoction of **cinchona** as a specific.

LAWSON TAIT, speaking of women becoming addicted to intemperance, says that he has never yet had such a case in which there was not some strong inducement to the indulgence. The cause will generally be found to exist in some physical suffering or mental distress, or in climacteric insanity. He has cured one drunken woman by introducing a retroflexion pessary. The neglect or infidelity of their husbands drives many women to the use of alcohol. Those who adopt the habit late in life, at the climacteric, should be secluded until that period has passed.

ANSTIE affirms that in nine cases out of ten the successful treatment of delirium tremens depends on the regular and continuous supply of nutriment. Milk, soups, or very hot and strong broth, with bread, concentrated meat foods, and raw eggs are the articles he favors. If the stomach be irritable, give food by enema.

Purgatives are indicated when sudden delirium follows the ingestion of large amounts of alcohol by young and robust persons. No such treatment is admissible in weakly, debilitated or aged persons. Gastric irritability may be combated by ice, and soda water with milk. After careful study of the **digitalis** treatment, he concludes that all the good effect is due to the alcohol in the tincture given. In young subjects and in first attacks he gives no alcohol; in older cases, he only gives stimulants when cannabis Indica and morphia hypodermics fail. Chloroform, by the lungs or stomach, he considers too dangerous for the small amount of benefit derived. A better remedy is **bromide of potash**. It should be given in scruple doses every two hours, until six doses have been taken, unless sleep be produced sooner. This is incomparably safer and more effective than opium. It is best suited to young and vigorous subjects, with epileptiform attacks.

Chloral exactly suits the cases in which bromide is not indicated. In scruple doses every hour it is superior to any drug hitherto used in delirium tremens. It is rare that more than three doses are required to produce sleep.

Scanty urine or perspiration, with a strong pulse, as shown by the sphygmograph, indicates the use of **antimony**; $\frac{1}{4}$ to $\frac{1}{2}$ gr. every one or two hours, until relieved. The greatest care is requisite in the use of this remedy. The least irregularity of the pulse demands its discontinuance. Skilled nursing is of great value.

HARTSHORNE recommends a residence in a suitable asylum for not less than six months.

DENEFFÉ proposed **bromide of camphor**.

H. C. WOOD, speaks of the use of **lupulin** to promote sleep, strengthen digestion, and allay nervous irritability. He says it is often necessary to use opium freely; and that he has found the combination of morphia and chloral singularly efficient.

BARTHOLOW says that no hypnotic is so useful as **chloral**. It is best suited in cases following a debauch; and is dangerous in old, worn out drunkards.

Re-establishing digestion and giving suitable nourishment are in many cases the only means needed to quiet delirium and induce sleep.

In the state preceding delirium, known as the "horrors," **bromide of potash** is most satisfactory; in doses of $\mathfrak{z}$ j every four hours. It is less efficient in subsequent attacks in delirium, and when central structural changes have occurred.

Capsicum in $\mathfrak{ss}$ doses quiets restlessness and induces sleep. Cold baths are indicated for hyperpyrexia.

Quinine with a mineral acid is useful in "horrors." **Carbonate of ammonia** is best given when there is anemia of the brain and weakness of the heart.

WARING says that **tartar emetic** is a useful adjunct to **opium**, producing sleep where either fails if given alone.

Capsicum is favorably mentioned; as also are chloral, bromide of potash, (in the earlier stages, and to remove delusions remaining after the attack has passed), ice-bags, to the head or spine, or the wet pack in furious maniacal excitement.

CURNOW recommends, in young subjects and first attacks, absolute abstinence from alcohol, mild purgation, milk diet, and tartar emetic in $\frac{1}{8}$ gr. doses, carefully watched, with chloral or **bromide**, gr. xx, every four hours, if sleep do not supervene.

In older cases give a mild purge, light but very nourishing diet, and if the restlessness should persist, a full dose of **laudanum** at bedtime. If this fail, add alcohol. If great depression or pneumonia ensue, stimulants must be pushed. Hypodermics and **digitalis** are dangerous.

HAMMOND prescribes **morphia** hypodermically, with **brandy** if needed, when delirium has followed the cessation from drinking. But if it has come on during a debauch, he gives a drachm of **bromide** in f $\frac{3}{4}$ ss infusion of **digitalis**, every hour until asleep.

CROTHERS, of Hartford, stops the alcohol at once, and gives **bromide of ammonium**, gr. xl, every three hours; with or without tinct. cinchonæ. At bedtime fifteen grains of chloral are given, or Hoffman's anodyne with cinchona. Aerated waters are freely used.

Phosphoric acid and **cinchona** form the basis of all tonics given. Bathing and electricity are good, if well borne. Rest is enforced. Lupulin with ammonii bromid. is used for insomnia. No alcoholic preparations, tinctures, etc., are used after the first few days; but infusions are substituted.

N. K. MORTON, of the N. Y. Inebriate Asylum, substitutes food for stimulants at the earliest possible moment. He gives a double seidlitz powder, and follows with,

R	Aetheris chloric.....	gtt. xv
	Glycerinæ.....	f 3 ss
	Tr. capsici.....	gtt. iij
	Syr. zingib.....	
	Tr. cinch. comp.,.....	āā f 3 ss
	Aquæ.....	f 3 jss

M. S.—At once. To be given each morning for three days.

During the day lactopeptine with muriatic acid is given every three hours.

It must never be forgotten that chloral is a dangerous drug in weak conditions of the heart; to which drunkards are especially liable.

C.—CHRONIC ALCOHOLISM; OR, THE ALCOHOL HABIT. BOEHM, premising that the treatment usually ends in failure, lays the greatest stress on the diet, and the treatment of the gastric disorder present. Moral suasion is also important.

LOOMIS recommends **chloral** or **bromide** for insomnia. Opium may relieve the craving for drink by substituting a worse habit. Variety in diet, pleasant surroundings, and strong force of will, offer the only means at our command.

DAVIS confines his recommendations to that of restraint, by legal enactment.

ROBERTS urges the importance of nourishment; especially as there is a distaste for food, and patients left to themselves will not take enough food. For nausea, effervescing mixtures, or soda water, soda bicarb., nitro-muriatic acid, with infusion of gentian and hydrocyanic acid are serviceable. For insomnia he gives bromides. Baths are often useful, as well as rest and change of air.

MARCEY found **oxide of zinc** useful: gr. ij, ter in die, gradually increased until sixteen grains were taken daily. GOLDING BIRD also favored this drug; claiming for it specific tonic effects on the nervous system. It induces sleep, removes tremor and hallucinations, and relieves headache and dizziness.

TANNER does not confirm Marcey's statements, but prefers the general tonics with ipecac and rhubarb.

ALTHAUS states that where mental depression leads to drink, **catelectrotonos** of the brain, spine and cervical sympathetic has succeeded in curing. Electro-thermal baths form a valuable adjuvant.

ANSTIE says that when the patient merely complains of nervousness, insomnia, tremor, hallucination of sight, and dyspepsia with morning vomiting, the treatment consists of abstinence, a rich diet, and tonics.

Quinine, one grain thrice daily, is the tonic preferred. In the few cases where this fails to relieve all the symptoms, he orders **ether** in doses of $f\ 3\ ss$ thrice daily, or $f\ 3\ j$ at bedtime. **Oxide of zinc**, while not fulfilling MARCET's hopes, is sometimes valuable. The quantity should not exceed six grains daily, given after meals. It should not be long continued in anemic cases.

Bromide of potash is a better remedy, sometimes relieving the above symptoms promptly, when given in doses of ten or twenty grains thrice daily. If sleep be not induced by these remedies, $\frac{1}{4}$ to $\frac{1}{2}$ gr. of a good extract of **cannabis Indica** is one of the best hypnotics. Larger doses do harm. If opiates be given, it should be hypodermically. Half a pint of stout is just as effectual, given at bed time.

When paralysis, spasms or mental disease show the occurrence of grave central degeneration, the best remedies are **cod-liver oil** with **phosphorus** and **hypophosphite of lime** or **soda**. Full doses of oil should be given for months. Even in advanced stages the benefit is sometimes striking. When muscular tremor predominates, **strychnia** is indicated, in small doses.

BARTHOLOW favors the use of **oxide of zinc** with piperin, to relieve tremor, gastric distress, and the appetite for drink. For the dyspepsia, with tremor and insomnia, **capsicum** is indicated.

RINGER says that **capsicum** is the best substitute for alcohol, when an attempt is made to break up the habit.

CURNOW pronounces the great desideratum an easily digested and nourishing diet. As medicines, the bitters and carminatives are indicated. Alkalies, hydrocyanic acid and effervescent mixtures allay nausea. **Bromides** are best for the insomnia. Cod liver oil, arsenic and zinc are useful in chronic cases if persisted in for months. The craving for drink may be allayed by opium. Judicious supervision and residence in an asylum are the only remedies in inveterate cases.

HAMMOND recommends **bromide of zinc**, gr. ij, ter in die, rapidly increased to three times the amount.

C. O. G. NAPIER, of England, states that a vegetable diet lessens the desire for alcohol; especially the leguminous foods.

From this mass of testimony the reader may deduce his own conclusions. If the authorities quoted be taken chronologically, it will be seen that opium gave place to chloral and the bromides; which, in turn, are giving way before the tendency to rely on good nursing and careful diet.

A. The preparations of ammonia, which have long been used to dissipate inebriety, may be laid aside as useless. The best means of sobering a drunken man quickly is the Turkish bath.

B. For the succeeding headache and vertigo, nausea and other symptoms of gastric catarrh, the following will suffice.

R	Ext. rhei fl.,.....	f 3 ij
	Vin. ipecac.,....	f 3 j
	Potas. carb.,.....	3 j
	Aquæ,.....	q. s. ad. 3 ij

M. S.—3 ss in a little *hot* water, every two hours.

Bismuth, gr. v., every half hour, is also an efficacious, as well as a much pleasanter remedy, for the same state.

C. Delirium tremens is in most cases amenable to rest, wise nursing, and careful feeding with nourishing, easily digested food. Pepsinized milk with the white of an egg beaten up in it, should be given at short intervals. Scalding hot beef-tea is borne when articles merely warm would be ejected. If the stomach be too irritable, give by the rectum. Beef peptonoids are peculiarly useful here. In cases of debility, to this diet may be added raw beef minced with vinegar, soused pigs' feet, pickled tripe, or raw oysters with vinegar. These will be borne when nothing else will. **Pepsin** should be used in enormous doses, as the stomach is secreting none. **Capsicum**, in 30 grain doses, every two to four hours, is the best remedy in most cases. If a hypnotic be absolutely needful, **lupulin** may be given in doses ranging from ten grains to an ounce. We have given the latter dose hundreds of times, with benefit. But **hot baths** alone will often produce sleep.

Very few cases require alcohol. Anstie's rules concerning its use are to be commended.

One may practice many years without seeing a case which requires more than the simple treatment above recommended.

D. In the rare cases of mania a potu, with wild delirium and a hard, full pulse, the best remedies are the **cold pack**, and **tartar emetic**. Both require skill in their use; more than can be put into words. In these cases chloral and the bromides are useless; in delirium tremens they are unnecessary.

E. The treatment of the alcohol habit is as yet exceedingly unsatisfactory. Of the numerous remedies proposed as specifics, scarcely any have retained a place, however lowly, in the treatment. The miraculous cures of which we read in works of fiction, are rarely witnessed in real life. Almost invariably the cycle becomes contracted, the relapses become more frequent, the will power grows weaker, and the victim of periodical oinomania sinks into a drunkard's grave.

The author having devoted much care to the study of this disease, begs to herewith present a summary of his observations as to treatment.

A number of drugs have been recommended as possessing the power of removing the appetite for alcohol. **Fowler's solution**, in drop doses, has been tried and found wanting. **Oxide of zinc** has absolutely no power whatever in this direction. **Quinine** is useful simply as a tonic. **Capsicum**, by itself and in connection with **Myrrh (No. 6)**, has received the sanction of high authorities. I have given No. 6 in doses beginning with five drops, and ending with a pint taken in twelve hours. It was worthless; except as a remedy which will aid in restoring the function of the stomach after the spree is over. **Nux vomica** is one of the best of tonics; nothing more. By the use of opium, chloral, or chloroform, nothing is gained but the substitution of other habits, as debasing as that which they are supposed to cure. The chloroform habit is the most rapidly fatal to mind and body, which has ever been formed by man. **Coca**, as a specific, is no more reliable than its predecessors. As an instrument in the rational treatment of this disease, it is the most powerful at our disposal. Coca is useful in every case, from its power

of sustaining the strength and giving tone to the nervous system, until the effects of feeding are manifest. It is of special value, in addition, in those cases, by no means rare, where the seat of the craving is in the mouth and stomach. Just as in ice-water dyspepsia, the incessant thirst is relieved by anæsthetizing the nerves of the mouth, throat and stomach, the same effect is felt when the thirst is for alcohol. No such action is seen when the craving is for a paralyzer of consciousness. For this condition no remedy has been discovered as yet. It is singular that I have not met a case of the coca habit, though the journals have reported a number. I have used coca myself and given it to many others, for thirteen years; and have never met with a person who found it more difficult to abstain from coca, than from the morning draught of coffee. Perhaps one reason for this is that I have never used it hypodermically. From my views as above expressed, as to its local action, I have preferred the use of plugs made of the coca leaf. In chewing these, is obtained the maximum effect of the drug, the local and general action, and the occupation of chewing; which is not without its influence. The fact that the plugs can be carried in the pocket, and used without attracting attention, renders them available when a liquid medicine would not be used.

In every case, it is necessary to examine critically into the functions of the digestive canal, the liver, kidneys, and the other organs. The sexual organs are but rarely and indirectly at fault; as when a middle-aged man with a lusty young wife, resorts to alcohol to aid his waning powers.

On several occasions I have given public utterance to my belief, that the only success to be obtained in treating the alcohol habit, is by studying the circumstances peculiar to each case, and applying our remedies to the conditions found. To illustrate: The wife of one of my patients informed me that for some days preceding each attack there was a red deposit from his urine. When this again occurred, I put him upon the use of **Carlsbad** water. He was a stout, plethoric, middle-aged man, with excellent digestion, favoring meats in his diet, and of sedentary habits. The attack was prevented, and he has had none since; the wife resorting to the remedy whenever she notices the deposit in the chamber.

In another case, the patient informed me that about ten days previous to his attack, his feces became fetid and colorless, showing an absence of bile. He had no sign of jaundice; so that there was a suppression of the formation of bile. A few days later, he showed symptoms of coryza; and then his spree commenced. I at first thought the coryza a coincidence; but after observing it in five successive sprees, I could not but believe there was some connection between the two phenomena. In this case, the administration of nitro-muriatic acid with chloride of ammonium succeeded a number of times in warding off the spree; but finally the mixture lost its effect.

R. Ammon. chlorid.,.....
 Acid. nitro muriat.,.....āā 3 ij
 Aquæ ad,.....f 3 ij

M. S.—A teaspoonful in water before each meal.

As a general rule, it will be found that a country life will prove more conducive to cure than a residence in the city. Morbid excitement of all kinds leads to drink. The sober, quiet life of the farmer, the hard physical work, and the nearness to nature, all tend to lessen the desire for stimulants. A vegetable diet is also beneficial. Unquestionably, as the power of self-control is lessened, the necessity for restraint becomes more manifest. Here is the gist of the difficulty. There is no law which allows inebriates to be deprived of liberty to ruin themselves and their families. But rarely will they go voluntarily to a retreat. Sometimes one is found wise enough to flee to a safe haven at the first sign of the coming storm, but "he who hesitates is lost." If he go not at once, to-morrow he will be unwilling to do so. And even if he were willing to go, we have not in Pennsylvania a suitable place to send him. The retreats are all designed for wealthy patrons. They spend some time there in idleness, with every effort made to amuse them, while their friends are perhaps laboring for their support. The inherent laziness of man soon asserts itself. They begin to like a life of pampered idleness. When they return to their homes, it is with the feeling that their friends should amuse them, shield them from every cold wind that blows, help them over every difficulty; while they take great credit to themselves meanwhile for keeping sober. In a word, a

year in an inebriate asylum generally leaves the patient thoroughly spoiled. On the least excuse he is off to his old habits; and is ever ready to blame the relapse on his friends, who haven't helped him enough. The ideal inebriate asylum is yet to be instituted. It must be a farm, at some distance from the city, with no rum-shops too near. The inmates should be compelled to labor for their board as soon as they are well enough. The knowledge that one is earning his living helps to restore his self-respect; while the benefits of the institution are also brought thereby within the reach of a large class, to whom there is now no refuge but the House of Correction. The period for which the patient resides in an asylum should not be less than six months; except in cases where the disposition to drink passes off quickly, and the patient still possesses sufficient desire to be cured, to impel him to return of his own accord when he feels temptation. W. F. W.

ANEMIA.

Chlorosis and pernicious anemia will be considered separately. Although the affection in question, apart from these forms, is simply symptomatic, still it will be well to speak of its treatment at length, as it will save repetition.

Common sense teaches that the first indication is to search for the cause, and remove it if possible. Syphilis, Bright's disease, malaria, phthisis, chronic or acute discharges, together with digestive deficiencies, over-work, bad hygienic conditions, and bad habits, form the principal group of etiological factors.

As in many other cases, while a removal of the cause should be our first thought, this in itself is often insufficient to effect a cure. The cause may be removed, but the effect remains in an impoverished state of the blood.

All authors give a leading place to the dietary treatment. The most nourishing food, in the most digestible form, should be given at short intervals, in small quantities. (See Dyspepsia). The aim should be to order such food as will replace the elements which are lacking to the blood. The influence of moderate exercise, stopping short of fatigue, of a life in the open air, of

exposure to the sun, of sea air, of change and travel, and of agreeable surroundings, is urged by all authors.

The beneficial effects of **iron** are no less universally admitted.

BRUCE recommends that when constipation co-exists, the sulphates of iron and magnesia be given in conjunction. [This is a useful combination when anemic dropsy is present.

R. Ferri sulph.,.....gr. iv.
 Magnes. sulph.,.....3 vj.
 Infus. coctis, q. s. ad,... f 3 vj.

M. S.—f 3 ss in half a glass of cold water, one hour before meals.]

If relaxation exist, BRUCE recommends the astringent salts; while quinine and strychnine should be added in older subjects, with nervous depression and want of vigor. He mentions among other preparations suitable for special cases, **Rabuteau's dragees**, etc.

LOOMIS says that **alcohol** is food to anemias; preferably in the form of Burgundy or Madeira. In females malt liquors are best. He gives the preference to Vallet's mass, Bland's pills, and in children the citrate, or iron by hydrogen. It should be given after meals. If iron alone fails, he adds quinine, arsenic, strychnine or phosphorus. Emulsions of cod liver oil are useful if well borne. Malt extract, with iron, pepsin and pancreatin, is useful in weak stomachs. For constipation, he gives aloes with bitter tonics.

IMMERMANN says that the caprices of the stomach must be humored. If enough food cannot be taken in the usual way, feeding per rectum must supplement it. **Beef peptone** is useful for weak stomachs. In febrile conditions, give milk with yolk of egg, broth, wine, or brandy. Butter is the best fat. Starches are best for extreme dyspepsia and acute diseases. **Alcohol** is important, but is contra-indicated by corpulence and by albuminuria. Tokay and Madeira are best for men, but malt liquors for women and children, or for men accustomed to the use of beer. Rest lessens waste. Iron is contra-indicated by fever, pyrosis, acid fermentation, and active hemorrhage.

TROUSSEAU lays great stress upon the importance of removing gastric symptoms before giving iron. He recommends **Vichy** water, as removing acidity, and at the same time supplying a little iron in a form which does not disagree. He claims that iron is formally contra-indicated in the condition which predisposes to phthisis; believing that the anemia delays the outbreak.

[That the administration of iron increases the disposition to pulmonary hemorrhage, which is so often the starting point in the chain of morbid processes which leads to tubercular phthisis, there can be no doubt.]

German authors generally praise **Blaud's Pills**. The formula is as follows:

R Ferri sulph. exsicc.,.....
 Potas. carbonat. purif.,..... āā ȝj
 Acaciæ pulv.,.....gr. lxxv
 Aquæ,.....3 v
 Syrupi,3 iij, gr. xlv

M.—ft. mas. et in pil. no. cxx div.

S.—Two pills three times a day, after meals.

Eight grains of sulphate of iron seems like a large dose for the delicate stomach of an anemic, but we have in its favor the weighty authority of NIEMEYER, who even increases the dose in a few days to twelve grains, without any ill results.

Many of the American mineral springs contain iron in quantities suitable for such cases. Of these, the **Saratoga** waters are the most popular, and can be most readily obtained. All contain iron; the Congress water in the smallest proportion. Individual tastes must be consulted in selecting the various chalybeate preparations.

DEJARDIN BEAUMETZ found that **cold douches** notably quickened the improvement of the blood, when associated with the administration of iron. The douche or shower should not at first be prolonged more than five seconds. He denies the affirmation of Trousseau, as to the danger of giving iron to persons predisposed to phthisis; but admits the tendency to hemoptysis which iron produces, and advises improving nutrition by other means in such cases.

BARTHOLOW recommends the **lacto-phosphate of lime** for the anemia of pregnancy and lactation. We have by many trials satisfied ourselves of the value of the drug.

He also recommends manganese as an adjuvant to iron; but the experiments of HAYEM show that instead of aiding the chalybeate, manganese actually retards its action. In anemia from passive hemorrhage, Bartholow recommends the chalybeate alum waters of Virginia. Galvanization is a useful adjuvant; arsenic is beneficial where iron disagrees; and malt liquors are recommended in convalescence.

To the above we will add, that if iron as first administered disagrees, it will be wiser to study the condition of the digestion, arrange the diet and other hygienic matters, and try other ferruginous preparations, rather than substitute the other tonics. The good effects of cold douches, of change of air, and of a properly regulated diet, including the use of pepsin, pancreatin and malt extract where indicated, cannot be overestimated.

J. POLLOCK, of London speaks in high terms of the following combination:

R Ferri ammonio-citratis.....gr. v
 Ext. rhei fl.....gtt. v
 Infus. quassie.....
 Aq. menth. pip.....ââ f 3 ij

M. S.—Take thrice daily.

DA COSTA has used dialyzed iron hypodermically, in doses of m xv —xxx. It is not clear that this method offers practical advantages over the ordinary modes of administration. He subsequently found that the double salt produced by the addition of ferri hypophos. to a solution of soda citrat. was less liable to cause abscess. Two grains, once daily, was the dose given. The same author has recommended inhalations of iron.

R Ferri lactat.....gr. ij
 Aquæ dest.....f 5 j

M. S.—For one inhalation. To be administered several times a day, by means of a steam atomizer.

The **Elixir gentianæ ferrata** is often used as a gentle tonic and appetizer.

R	Ferri pyrophosphat	3 j
	Aquæ bullient.....	f 3 ss
	M. et adde	
	Ext. gentianæ fl.....	f 3 ss
	Curaçoe.....	f 3 jss
	Vini, q. s. ad	f 3 iv

M. S.—f3 j thrice daily.

GUERDER, of Paris, recommends **dried blood**, taken in sweetened water, with liquor or wine, or in milk, with cocoa.

EASTON of Glasgow, is the author of the elixir ferri quiniæ et strychninæ phosphat., used as a general tonic.

GROSS preferred the tincture above all other preparations of iron.

HAYEM observed marked improvement follow the inhalation of **oxygen**. The good effects were but temporary, unless iron was given at the same time.

FOTHERGILL advises that when the anemia proves intractable, the patient should be sent to a chalybeate spring. If the means are wanting, give the iron before meals, well diluted. The addition of a large glass of water to the dose of iron will make the difference between success and failure; the iron being assimilated better when diluted. Sometimes the first result of the administration is headache, due to the inability of the brain to bear the irritation of blood richer than it is accustomed to. Epistaxis may occur to relieve this. For this he advises the addition of bromide of potash.

R	Potass. bromid.....	gr. x
	Ferri et potas. tart.....	gr. v
	Infus. quassiæ.....	f 3 j

M. S.—Ter in die.

The combination of iron with purgatives is sometimes useful in these cases.

R	Magnes. sulph.....	gr. x
	Quin. sulph.....	gr. ss
	Liq. ferri persulph.....	ʒ xv
	Inf. quassiæ.....	f 3 j

M. S.—Ter in die.

When anemia is associated with amenorrhœa, iron and aloes are given in pill.

R	Acid. arseniosi.....	gr. j
	Ferri sulph. exsic.....	gr. xxx
	Pulv. piper. nig.....	3 j
	Pil. aloes et myrrh.....	3 ij
	Ol. sabinæ.....	gtt. xxx

M.—ft. mas. et in pil. lx div.

S.—One twice daily, after meals.

Anemia, where a deep impression has been made on the nervous system, is often obstinate; and necessitates persistence in the tonic regimen.

PERNICIOUS ANEMIA.

HARTSHORNE, while acknowledging the futility of treatment, recommends the plan followed in ordinary cases of anemia.

LOOMIS recommends iron, quinine, strychnine and arsenic, with a rich fluid diet; change of air and sea-bathing. Transfusion has failed; though one cure from it was reported.

IMMERMANN, while urging the employment of a nourishing diet, large doses of wine, iron, quinine, etc., and transfusion, admits that experience has shown that none of these remedies exerts much influence on this form of anemia, or delays the fatal issue.

GUSSEROW suggests that when the disease appears during pregnancy, premature labor should be induced.

C. CAREY reports a case in the Buffalo Med. and Surg. Jour., Jan., 1881, which was cured by transfusion of two ozs. of human blood.

A. WELDON, in the Med. Press and Circular, claims to have cured four cases by the intravenous injection of milk.

DUJARDIN-BEAUMETZ thinks that while transfusion confers no lasting benefit, it may still prolong life; yet the risks of the operation outweigh its benefits.

ANGINA PECTORIS.

(For general treatment, see Neuralgia.)

ANSTIE says that in angina, **arsenic** has a most direct effect, which is rarely missed, and is sometimes surprising. It succeeds best in anemic cases. The dose is three minims of Fowler's solution, increased to ten, three times a day. The prolonged use of arsenic seems to root out the tendency to angina. He believes it will be found most successful in cases of severe angina in anemic males; especially professional men whose careers imply incessant labor and great anxiety. Arsenic is of little use in angina minor with alcoholic excess. In these subjects the stomach will not bear this irritating drug. **Quinine** suits such cases better, followed by cod liver oil in large and increasing doses, given for a long time.

As prophylactic, he advises avoidance of violent emotion and rough exercise, especially boating. Indigestion and flatulence may occasion an attack. Where the heart sounds are weak, and the circulation languid, **iron** and **strychnine** produce marked improvement. Still better is the syrupus quiniæ, ferri et strychniæ phosphat. The anginal attack must be met with remedies capable of affording relief most speedily. **Ether**, a teaspoonful, in mucilage, repeated shortly if needed, is efficient. If the attack be provoked by indigestible food, an emetic should be given; preferably of mustard. Chloroform is an unnecessary and dangerous remedy; the effect of but one or two inhalations of a powerfully charged atmosphere being instant death. Hot applications to the epigastrium and hot bottles to the feet are of use. **Nitrite of amyl**, inhaled in doses of five to ten drops, produces remarkable relief. The sensation of fullness in the head, however, is so disagreeable that patients sometimes prefer to suffer the pain. If atheroma be present, the remedy might prove dangerous.

DUCHESNE succeeded in cutting short the attacks by applying strong faradisation to the cardiac region; in a few instances recovery followed the continued use of this measure.

EULENBERG prefers the constant current, applying the anode on the cardiac region, and the cathode on the back.

DAVIS, while admitting the speedy relief afforded in the

paroxysm by the hypodermic use of morphia, calls attention to the serious objections to this mode of treatment. If the heart be weakened by disease, fatal stupor may ensue from the sudden narcotism which may be produced. If the gouty diathesis accompany the angina, five to ten minims each of acetated tincture of opium and wine of colchicum root may be given every half hour till relieved. Secondly, the danger is great, that the patient, resorting still more frequently to the drug, may become finally an opium habitue. If fatty change be present, a more suitable remedy is the following:

R Tinct. digitalis.....f $\frac{3}{4}$ ss
 Sp. æth. comp.....f $\frac{3}{4}$ j

M. S.—Twenty to thirty minims every half hour till relieved.

To prevent the recurrence of attacks, besides the general hygienic regimen, and the treatment of the cause when possible, he advises the patient to abstain from the free use of tea and coffee, and from any use of alcoholic beverages.

LOOMIS considers it doubtful if any remedies can arrest or greatly relieve a paroxysm. Rest, and the free use of **digitalis**, are of the most service. An emetic if needed, or hot foot-baths, if due to cold, are useful. He mentions nitro-glycerine, minim $\frac{1}{100}$, approvingly; and hypodermics of morphine.

TROUSSEAU advises the continuous use of belladonna, in small doses. In the paroxysms, he prefers ether and ammonia to opiates.

BRETONNEAU cured a number of cases by giving bicarbonate of soda, gr. xx twice daily before meals, increased to 200 grains a day, if well borne, and continued for six months. This treatment was supplemented by the use of belladonna.

GARDNER states that with heat applied to the feet and epigastrium, mustard to the chest and back of the neck, together with ether and other diffusible stimulants, he has often been able to dispense with opium. In typical cases, however, opium is too valuable to be discarded; although it must be watched carefully, especially if disease of the lungs or kidneys be present.

HUCHARD advises abstinence from tea, coffee, tobacco, alcohol, sexual excesses, overloading the stomach, fatigue, and climbing hills. A quiet life, in a dry climate, and an occasional resort to milk diet, form part of his regimen. If syncope be imminent, he uses ethereal stimulants. For the intervals his remedy is the iodide of potash.

GERMAIN SEE rejects amyl, chloroform, belladonna, and electricity. In the paroxysm he uses **morphine** hypodermically, followed by an enema of chloral, gr. xxx-xlv. Sometimes spirit of mindererus aids respiration greatly. The morphia is repeated for some days to prevent the recurrence of the attack; besides which he uses in the intervals digitalis and bromide of potash.

SQUIRE recommended bromic ether internally.

For light attacks, ether, ammonia, or alcohol are sufficient. To obtain the maximum effect, they should be diluted as little as possible. For severer seizures, amyl has won the first place, in all cases except where atheroma is present. **Nitro-glycerine** has attracted much attention of late. It is slow in its action, as compared to amyl, but the effect is similar. Hypodermics of morphia should never be given if the kidneys be diseased. Except in the worst attacks, where amyl is contra-indicated, or cannot be procured, it is better to give the morphine in *hot* water. The effect is nearly as speedy as when given subcutaneously. For the treatment in the intervals the administration of arsenic has as yet no rival.

In *The Medical World* of May, 1885, Drs. F. A. JOHNSTON and W. B. STEERE report success in the use of nitro-glycerine, and Dr. E. C. ROTHROCK has the same commendation for nitrite of amyl.

APHASIA.

BASTIAN says, that when aphasia occurs after excitement or overwork, without paralysis, it is a precursor of graver symptoms. The patient requires absolute rest from work for a time, and careful watching. Temporary aphasia with right sided spasms, or

continued aphasia with right hemiplegia, calls for the treatment of the spasms or palsy; as the aphasia is relieved the other conditions pass off. The undue use of stimulants must be avoided, and **bromide** with **sumbul** and other sedatives should be given. If, however, aphasia has co-existed with partial hemiplegia, and remains after the latter has disappeared, the patient must be taught to speak as in infancy. This may sometimes be done, though only after great pains.

ROSENTHAL says that during recovery the cure may be hastened by teaching the patient short words, and by using writing exercises. Aphasia due to traumatic lesions of the skull sometimes yields to **trephining**.

ALTHAUS says that aphasia due to brain diseases has never been cured by **electricity**; but ARTHUR claims to have relieved it by **franklinism**, in daily electric baths for months. In one case which came under our notice, aphasia, due to syphilis of the brain, for a week preceded hemiplegia.

APOPLEXY—(CEREBRAL).

GOWERS remarks that the treatment must be governed by the cause; and if that be not manifest, the case must be treated as one of cerebral hemorrhage. The patient should be placed in the recumbent posture with the head slightly raised, and kept perfectly quiet. The respiration should be unimpeded by clothing. If the feet be cold, apply heat to them; if the head be flushed, apply cold water. Mustard on the neck and legs seems to hasten the recovery of consciousness. Stimulants should be used when indicated by the weakness of the heart. In thrombosis or embolism, keep the heart at the normal, by careful use of **alcohol**, ether or ammonia. Venesection and cathartics are indicated by high arterial tension and congestion, shown by the hard pulse and flushed face. If the heart beat strongly with a full, hard pulse, bleed, from a large orifice. Purgatives act less promptly. The best is croton oil. Paleness and a failing heart forbid their use. Diuretics are then useful.

ROSENTHAL advises for light attacks to keep the head elevated, and apply cold compresses, frequently changed. The bed and room should be cool. Cool, acid drinks should be given; but no food. If the attack occur after a hearty meal, produce emesis. If obstinate constipation exists, give purgative enemata, with vinegar, Glauber's salt, or senna. If increased vascular tension (indicating congestion) appear after the attack, with red face, injected conjunctivæ, strongly pulsating arteries, and fever, in robust cases, bleed at once. If a second attack be threatened, bleed to avert it. In weak, cachectic subjects with cold skin and feeble pulse, substitute leeches and cold compresses. Rubefacients are superfluous in light cases, useless in severe ones. Combat depression with stimulants.

In the reaction stages violent symptoms and convulsions may demand venesection. Usually, repeated leeching of the mastoid processes, and cold compresses or ice bags to the head suffice. Generally, moderate catharsis is more beneficial than the application of sinapisms. Cold bathing and small doses of opium are of benefit in violent excitement and insomnia.

DUJARDIN-BEAUMETZ declares that bleeding is not to be thought of in the seizure, as it is useless and perhaps dangerous. It cannot prevent the consequences of the rupture, it weakens the patient, hinders the formation of a clot at the seat of injury, and thus favors renewed hemorrhages. We are impotent to combat, at the time, the effects of arterial rupture; and our rôle consists in treating the symptoms. The bowels, bladder, and the hygienic details must be attended to.

The appearance of fever, however, calls for bleeding or leeching the mastoid processes. **Ice** may be also applied to the head, but not during the attack itself.

To avert new hemorrhages and to allay congestion, drastics are indicated. Ergot and iodide of potash are recommended to lessen congestion, on theoretical grounds.

DAVIS says that the indications are: 1st, to lessen cerebral pressure; 2d, to hasten reabsorption; 3d, to combat the conditions causing the apoplexy. In all cases in early life, originating in excessive flow of blood to the brain, prompt bleeding

is the remedy, continued till the pulse and respiration become steady and natural, and the redness leaves the face. Follow the bleeding with veratrum or aconite in sedative doses. Promptly acting cathartics should be given. Heat of the head calls for the use of cold applications, while hot pediluvia are also useful. After the bowels have acted he gives iodide of potash, with aconite if congestive symptoms continue, or digitalis if the heart weakens. Restlessness and insomnia indicate the bromides and belladonna rather than opium. A return of congestive symptoms should be met by leeching. In apoplexy from disease of the cerebral vessels, the question as to bleeding is often difficult. When induced by excessive brain work, or increased cerebral excitability, or impaired vaso-motor power, moderate bleeding is usually advantageous. This gives temporary relief, and time for the action of the other remedies to increase vascular tone. For the latter purpose he recommends **ergotine**, combined with digitalis, bromides or iodides, as indicated. The most difficult cases are those of fatty degeneration of the cerebral arteries. They nearly always die.

The treatment of threatened apoplexy consists in moderate cathartics, nerve tonics, quiet and spare diet. The attack may be warded off for a time, but finally occurs, and proves fatal. Sometimes a timely venesection will postpone the attack indefinitely.

LOOMIS recommends for threatened attacks, free purgation, blisters to the neck, bromide of lithium and oxide of zinc. For the fit, his treatment is moderate bleeding for the robust, with high arterial tension. The bladder must be examined. Place the patient on his side, that the tongue may not hinder respiration. When the coma passes off, the strength must be sustained, absolute rest enjoined, and the bowels kept open by mild salines. Milk and meat juice are to be freely given, and stimulants if required, as will be the case quite early in old and feeble subjects. Restlessness and insomnia call for narcotics. The clot is now a foreign body, and nothing external or internal can remove it; blisters, &c. are worse than useless.

ROBERTS makes the wise practical suggestion, that when the diagnosis is uncertain the stomach should be emptied by the pump, as the symptoms may be due to poison. Don't interfere actively

unless there be a clear indication. Often all that is necessary is to place the patient in the recumbent position, with his head elevated, loosen the clothing at his neck and chest, allow plenty of air, and enjoin perfect quiet. If the attack be due to congestion, recovery will soon follow. If it be due to hemorrhage, with marked plethora, bleeding may be useful, but is rarely needed. Often the condition is one of shock; and then stimulants, enemas, heat and sinapisms to the feet, and other means of rousing the patient are needed. A drop of croton oil on the tongue is often useful. If coma continue long, nourishing enemas must be used, with mustard to the skin. The bladder must be emptied regularly. When consciousness returns, he must be kept absolutely quiet and on low diet, till the stage of reaction has passed. If inflammation ensue, the head must be shaved and ice applied, with blisters to the neck. The subsequent treatment depends on the progress of the case, support being the main indication.

NOTHNAGEL says that if a threatened hemorrhage depend on miliary aneurisms, we have no means of prevention. If it be due to cerebral hyperæmia, the treatment of that affection is indicated. Why should we bleed, in the attack? Not to promote absorption, which bleeding cannot do. Not to check hemorrhage, which it cannot do unless carried to a dangerous extent. The true styptic is the clot. It is possible that when the arterial pressure is abnormally great, its diminution may somewhat help to restrain the bleeding.

A renewal of the hemorrhage rarely occurs; but certainly bleeding lessens this danger. The chief indication for bleeding is when, from cerebral pressure with hyperæmia, paralysis of respiration is threatened. Rapid loss of blood alone meets this indication. Beware of pushing the remedy to the extent of producing cerebral anemia. The turgid face, distended veins, pulsating carotids, powerful action of the heart, tension of pulse not below normal, pulse slow and regular, respiration uniform, quiet and snoring, and the patient strong and not too old, such cases are benefited by bleeding. With these conditions, venesection is indicated if the cerebral pressure begins to cause rapid pulse and Cheyne-Stokes respiration. In all cases not corresponding with this description, venesection is out of place. It is often

injurious, hastening death; especially in decrepid persons, with rigid arteries or valvular disease, and feeble arterial tension. If used at all it should be general; cups or leeches do not replace venesection. With this, but not instead of it, we use sinapisms to the calves, stimulants, enemata, etc.

Stimulants are called for by symptoms of failing respiration or circulation. Then the face is pale, pulse soft and weak, respiration hesitating and intermittent, or of the Cheyne-Stokes type. This group of symptoms may be met with in the feeble or robust. Both lines of treatment may be demanded together or successively. Among the stimulants to be used, are the dashing of cold water on the skin, ammonia to the nostrils, frictions to the skin, dropping hot sealing wax upon it, etc.; or cardiac stimulants such as musk, coffee, wine, and ammonia.

After the first storm is past, the less done the better. Rest and quiet are required, but no stimulants, no coffee, no rich food.

For the fever of reaction, even local bleeding is rarely needed. Cold to the head is usually sufficient. The bowels must be kept open. If headache continue, with insomnia or delirium, chloral or opium may be needed.

The reader will see from the above how widely our authorities are at variance on the treatment of apoplexy. The all-important question of bleeding is still unsettled. Perhaps the safest guidance is to be found in the treatment given by *NOTHNAGEL*. It is certain that the cases demanding venesection do occur, but not often. Usually even in acute forms, we have time for the action of the speediest hydragogues, croton oil or elaterium, and the use of the bromides. We do not see why hydrobromic acid, in full doses, would not prove an effectual remedy. Whatever is done, depletion or stimulation, should be done speedily and effectually; and the physician must be ready to change to the opposite side if such a course be indicated. After all, as *Nothnagel* sagely remarks, under the best treatment, many will die.

ATHEROMA.

LITTLE says that the treatment is mainly preventive; namely, the avoidance of alcohol, of too rich a diet, of excessive muscular

efforts, especially in constrained positions, of postures which involve the long continued contraction of muscles which surround arteries; and, as far as the brain and heart are concerned, of all states which favor overfulness of their arteries; such as excessive mental effort, deficient sleep and prolonged sexual excitement, and efforts which involve holding the breath.

QUINCKE contents himself by saying that treatment must be directed to preventing the disease and delaying its progress. Everything likely to cause atheroma must be avoided; especially when its symptoms are manifest. He warns us particularly against the use of alcohol, and against anything causing violent excitement of the vascular system.

It may be said that whatever tends to the production of early decay tends to cause atheroma, and the avoidance of such causes constitutes its treatment.

ASCITES.

ROBERTS' method of treatment may be summarized as follows

1. Treat the causal affection; which is usually incurable.
2. Promote absorption by acting on the bowels, skin or kidneys. Active purgatives are most efficient, but must be used with caution. **Copaiba** is sometimes useful in peritoneal dropsy. Diaphoretic baths are of use in certain forms. **Digitalis** and squills may be of service as diuretics; or poultices with digitalis may be applied over the abdomen. **Iodide of potash** seems to do good in some cases.

3. Enrich the blood by suitable diet and tonics, especially iron.

4. When no effect is produced by the above measures, tap. If the ascites be of renal or cardiac origin, the relief will be but temporary; and the operation should be delayed as long as possible. In ascites from cancer, also, the operation is only for temporary relief. If due to local disease, not necessarily fatal, tapping repeatedly may be considered a curative measure. Remedies act after tapping which failed previously. Paracentesis has cured some, relieved all, and prolonged life. The system is not

affected by the drain of albumen. A few days after the removal of the fluid, the application of a bandage assists the removal of any remaining fluid, and prevents recurrence.

5. Symptoms resulting from ascites which require attention, are gastro-intestinal difficulties, dyspnoea and syncope. These demand the ordinary treatment, except dyspnoea, which is an indication for **tapping**.

It will be found in all forms of ascites that cathartics, sudorifics and diuretics, do more harm by reducing the strength than they do good in removing the effusion. Experience will confirm the sage remark of NIEMEYER, that more good will be done, and life prolonged, by combatting the tendency to hydræmia, by the use of iron and rich food, and by letting the dropsy take care of itself.

In 1882, a patient with dropsy of cardiac origin, tiring of repeated tapplings, requested me to leave the canula in place. Struck with the idea, I had a small trocar made, the size of a knitting needle, with a silver canula. I introduced this instrument, and fastened to the canula a long rubber tube, which I conducted into a vessel of water on the floor. This allowed a steady drainage of the fluid as fast as it exuded into the peritoneal cavity. The canula was allowed to remain in its place until in about three weeks it was obstructed by a large mass of lymph, which formed on the peritoneum around the point of puncture. It was then re-introduced at another point. Altogether the patient wore it about six weeks; and to the day of her death she praised me for the great relief the contrivance had given her.

(W. F. W.)

In cases of ascites from cirrhosis and from disease of the peritoneum this method offers some advantages over that of repeated tapping.

In ascites from cardiac and renal disease, the operation of tapping is exceedingly weakening, owing to the loss of albumen, as the fluid re-accumulates more quickly, the greater the quantity removed by the operation. The serum already effused hinders further transudation by supporting the weakened blood vessels. Remove this support, and the serum and albumen transude much more readily. Hence in such cases we tap, *not to remove the fluid*

but to relieve dyspnœa, and we take away only enough to accomplish this purpose. To keep up the quality of the blood, the formula for iron and magnesia given in the chapter on Anemia is exceedingly useful.

LOOMIS says that while the use of **jaborandi** will rapidly remove the accumulation, it hastens the fatal issue. He advises tapping before the effusion has caused pressure upon the viscera, unless the fluid can be removed by mild cathartics or saline diuretics.

ASTHMA—(SPASMODIC).

WILLIAMS says that cases arising from direct causes, irritant vapors, etc., are cured by avoidance. Bronchial inflammation calls for salines and expectorants, with belladonna. In chronic cases, with thickening of the bronchial walls and enlarged bronchial glands, **iodide of potash** is useful in doses of gr. iij to x, long continued. Gout, syphilis, diseases of the skin or of the kidneys co-existing, must receive appropriate treatment. **Arsenic** is of signal service in asthma with eczema, etc. If heredity be the predisposing cause, gymnastics, cold sponging, out-door life, and moderate walking or riding are to be employed. For the attacks, alcohol, coffee, ether and **amyl nitrite** are best when emphysema coexists. When the attack is so severe that the patient can neither smoke nor swallow, we may inject atropine, morphine or chloral; but not if emphysema or syncope be present. **Chloral**, in 20 gr. doses every four hours, has produced relief which may be permanent. He recommends this as his most successful remedy. Mineral waters act by relieving catarrh. Compressed air has afforded relief. Asthmatics should avoid flatulent diet.

DAVIS remarks that the cautious inhalation of chloroform, ether, or better, the nitrite of amyl, or the vapor of **eucalyptol**, will often give relief. So will the internal use of any mild anodyne and expectorant mixture.

℞ Syr. scillæ comp.,.....f ʒ j
 Tr. lobeliæ,.....f ʒ ss
 Tr. opii camph.,.....f ʒ jss
 M. S.—f ʒ j in a little water every one or two hours till relieved.

If the lobelia prove too depressing, the same quantity of tincture of sanguinaria may be substituted. Sometimes speedy relief ensues upon giving equal parts of paregoric and fluid extract of grindelia robusta. In children, ipecac. given to nausea suffices. Among the most important measures to prevent the attacks, he mentions wearing flannel next the skin, diet, gymnastics, and outdoor exercise. Inhaling the vapor of eucalyptol for three to five minutes morning and evening, is sometimes useful. It allays hypersensitiveness, and promotes healthy secretion.

LOOMIS commences his treatment by administering an emetic or enema, if needed. "The best position for an attack is the sitting posture. Some old people are relieved by sitting before a hot open fire in a close room." Ether and chloroform together are efficacious. **Quebracho** relieves some cases. TROUSSEAU advocates ammonia. **Grindelia** is strongly recommended. **Opium** in full doses gives the best results of any remedy in this class. He gives it alone or with atropine. **Iodide of ethyl** has its advocates. Among stimulants the best are coffee and alcohol.

All remedies wear out, and must be changed. Compressed air and oxygen he found useless. To the long list of remedies may be added, painting the skin with iodine over the course of the pneumogastric nerve, nitro-glycerine and pilocarpin internally. To prevent recurrence he gives tonics if needed, arsenic for alternating skin diseases, or iodides. In a number of cases the daily use of **quinine**, gr. xv-xx, will prevent the recurrence of paroxysms as long as it is taken.

HYDE SALTER says that the best guide in the selection of a remedy is the patient's experience. Ascertain what has given the most relief in previous cases. He relies greatly on ipecac., tobacco or antimony, *given to produce relaxation*. Tobacco must be used with great care, on account of its tendency to produce dangerous collapse. The effects of antimony are the same, but the collapse is longer. Ipecac. entails the least suffering, but tobacco is the most effectual and the most prompt in its action. The sooner the remedy is given, the better it acts.

Those who use tobacco for asthma should never use it at any other time; for it has no effect in those habituated to it. **Coffee**

relieves asthma by combating sleep, which favors the paroxysms. It should be given *strong, pure, very hot, on an empty stomach*. Sometimes nothing but **alcohol** gives any relief. It must be given in the most concentrated form possible; in amount sufficient to produce physiological effects; as hot as can be tolerated; and in increasing doses. **Chloroform** is one of the best remedies; opium is worthless. **Tobacco** as a sedative is useful to many. **Stramonium** in some is *the* remedy, in the majority is of use, in a few is injurious. Inhaling the smoke *cold* relieves some when the ordinary way of smoking the drug fails. The best results are obtained by smoking a pipe of it on retiring.

Lobelia must be given in full doses to obtain its benefits. Begin with ten minims and repeat the dose every fifteen minutes, adding one minim each dose till relief is experienced or the remedy disagrees. Cannabis and ether proved in his hands of little value.

Nitre-Paper is *the* remedy for pure asthma uncomplicated.

Asthmatics are generally dyspeptics, and should be treated for that affection.

The influence of locality he sums up as follows:

1st. Residence in one locality will cure, radically and permanently, asthma resisting treatment elsewhere.

2d. The best localities are populous and smoky cities.

3d. This depends on the air.

4th. The worse the air for health, the better for asthma.

5th. The reverse is exceptionally the case.

6th. The caprices of asthma are endless.

7th. Prediction is impossible; but as a rule, the most opposite to that in which the asthma is worst, will cure.

8th. The slightest differences determine the presence or cure of asthma.

9th. Locality alone can produce asthma in persons not previously supposed to be liable to it.

10th. Some persons who never have had or will have asthma, would have had it if they lived in other localities.

11th. Possibly, every case of asthma might be cured if the right air for it could be procured.

12th. The disease is merely suspended, to reappear on returning to the air which proves injurious.

13th. Change of air, simply as change, is injurious.

14th. From asthmatic caprice, the uniformity of results in any case does not obtain.

No greater testimony can be adduced as to the value of Salter's studies than the almost universal manner in which his conclusions have been adopted by the majority of the text books.

DACOSTA recommends for the seizure the following:

R Tr. lobeliae,.....
 Tr. hyoscyami,.....
 Sp. aeth. comp.,.....
 Syr. tolutan.,.....ââ....f $\frac{3}{4}$ j

M. S.—f $\frac{3}{4}$ j, in water every half hour.

R Chloroformi,.....f $\frac{3}{4}$ ss
 Ol. terebinth.,.....f $\frac{3}{4}$ j
 Sp. rosmarin,.....f $\frac{3}{4}$ jss

M. S.—Rub on chest several times a day.

R Potass. ioidi.,..... $\frac{3}{4}$ ij
 Morphinae sulph.,.....gr. $\frac{1}{4}$
 Tr. scillae,.....
 Tr. lobeliae,.....
 Syrupi,.....ââ....f $\frac{3}{4}$ j

M. S.—f $\frac{3}{4}$ j, ter in die, in asthma with chronic bronchitis and emphysema.

NIEMEYER was partial to quinine, especially when somewhat regular periodicity characterized the recurrence of the paroxysms.

TROUSSEAU favored iodide of potash, as does also GERMAIN SÉE. During the attack, SÉE uses **iodide of ethyl**, by inhalation, in five-drop doses.

TRASTOUR recommends local bleeding, blisters to the chest, iodide of calcium internally, and morphine in the attacks.

DUJARDIN-BEAUMETZ advocates the claims of bromide of potash in cardiac asthma.

MONELL recommends that the patient force all the air out of his lungs he possibly can, and then delay inspiration as long as possible; then take a long, full inspiration to the utmost extent of the lung power, and delay expiration as long as possible. Repeat

this method till relief is obtained; which will be about fifteen minutes.

MARAGLIANO gives **aspidospermine**, the alkaloid of quebracho, hypodermically, in doses of gr. $\frac{1}{3}$. Relief is felt in five minutes. Other authors report good results from the same drug, in other forms.

SWERINGEN prefers to all other drugs, **petroleum**, given in emulsion; the dose increased to toleration.

A writer in *The Medical World*, May, 1886, contributes the following prescription:

R Caffein. hydrobromat.,.....gr. ij
 Ext. cannabis Indic.,.....gr. $\frac{1}{4}$
 Ext. belladonnæ,.....gr. 1-16
 Ext. ergotæ, (Squibb's),.....gr. iij

M.—Ft. mas. S.—Give in capsule one hour before the expected attack, and repeat every two hours till relieved.

GERMAIN SÉE advocates the inhalation of **pyridine**. About a drachm is to be placed on a plate in a closed room, and the patient breathes the impregnated air for twenty minutes, three times daily. Dyspnoea is at once relieved, and sleep follows. Cigarettes composed of coca and tobacco in equal parts were recommended in *The Medical World*, in 1885.

R. W. GRISWOLD in *The World*, for September, 1885, speaks in the highest terms of chloral.

BALANITIS.

BERKELEY HILL states that after washing and drying, the excoriations should be touched with a ten grain solution of nitrate of silver, and a bit of lint laid on the glans to keep the surfaces apart.

Thorough cleansing with a dilute lotion of borax or chlorinated soda, followed by dusting a little iodoform over the surface, will be found efficient.

BALDNESS.

E. WILSON recommends stimulating liniments to the scalp; as lin. ammonia, lin. camph. comp., liniments of chloroform and of mustard, or acetum cantharidis diluted for general alopecia, or in full strength for area. In the latter, ammonia, turpentine and iodine are useful.

For syphilitic alopecia, ung. hydrarg. ammoniat. with camphor is the best local application.

J. W. BURNEY, in *The Medical World*, May, 1886, gives the following hair tonic:

R	Quininae sulphatis,....	3 j
	Sp. frumenti,.....	Oj
M.	et adde, aq. dest,.....	f℥ viij
	Tr. cantharidis,.....	f℥ jss
	Tr. sanguinariae,.....	f℥ jss
	Tr. nucis vomicae,.....	℥ j
M.	et filit. S.—Apply gently to the scalp twice a week.	

PIFFARD says that if pityriasis be the cause, it must be first removed. If the alopecia be syphilitic, the primary affection must be treated. This author believes that the internal use of arsenic, nux vomica, phosphorus and cod-liver oil has some effect in promoting the growth of the hair. The main dependence however, is on local treatment.

Clipping or shaving causes a stronger and more rapid growth. Begin with the milder preparations.

1st. In the beginning of alopecia **sage** checks the falling of the hair, and promotes a stronger growth. It should be applied in the form of an infusion, every other night. If in a month there is no improvement, it may be discontinued.

2d. **Tincture of Cantharides**, one part; alcohol, twenty parts; increasing the proportion of cantharides as the scalp will allow.

3d. If the scalp be too dry, oily applications should be used. The reputation of **petroleum** is not wholly unmerited. Oleates of mercury and strychnia may be of use.

4th. If the scalp be too oily, it should be washed, as needful, with fl. ext. soap-tree bark (*quillaya saponaria*) diluted.

5th. The treatment must be varied occasionally.

HEBRA gives the following treatment for alopecia furfuracea:

1. Soften the scales with oil, rubbed well into the scalp, repeatedly if necessary.
2. Wash with pure soap dissolved in alcohol. Repeat the oiling and washing till the scalp is clean. At first the patient will be bolder than ever, as this process will remove all the dead hairs which are still adhering to the scalp.
3. Later, substitute for the soap an alcoholic lotion of tannin, veratria, or other stimulants.
4. Finally, fatty preparations are needed.

PIFFARD recommends for alopecia areata, pulling out the hairs at the margin for a space of $\frac{1}{16}$ to $\frac{1}{8}$ inch. If the patch be congested—

R Ext. nucis vomicæ,.....f℥ ss
 Ung. simp.,.....f℥ j
 M. S.—Apply, well rubbed in, twice a day.

If the patch be pale, paint with cantharidal collodion.

This is followed with a mild stimulant, such as castor oil with a little tincture of cantharides. If in two weeks there is no sign of hair, repeat the application. As soon as fine hairs show, shave three times a week, and use mild stimulants.

HEBRA recommends stimulating alcoholic lotions for this form.

WILSON uses ammonia, camphor and chloroform.

SHOEMAKER says that the **oleate of iron** mixed with oil of ergot or other oils, is useful in dry seborrhœa, and in certain forms of alopecia with irritated skin-glands.

VAN HARLINGEN speaks of the importance of general treatment, including the administering of tonics, correcting any disorder which may be found, and regulating the hygiene. Locally, the proper remedies are those which stimulate the skin. He quotes from DUHRING the following list, which both authors recommend: Alcohol, cantharides, the essential oils, glycerine, castor oil, carbolic acid, tar, iodine, turpentine, ammonia, salts of mercury,

veratria, acetic acid, tannic acid, nux vomica, pepper and sulphur. To these may be added petroleum, which he considers useful. The scalp should be washed, and the remedy selected applied in lotion or ointment.

R Ol. amygdal. amaræ,.....gtt. x
 Acid. carbolic,.....f3 ss
 Ol. ricini,.....f3 ij
 Alcohol, q. s. ad.,.....f3 ij

M.

In *The Medical World*, August, 1886, GERHARD recommends the following:

R Quininæ sulph.,.....3 ss
 Tinct. cantharidis,.....f3 j
 Sp. ammon. aromat.,.....f3 j
 Ol. ricini,.....f3 jss
 Sp. myrciæ,.....f3 vss
 Ol. rosmarin,.....gtt. v

M. S.—Shake well. Apply two or three times a week, with a stiff brush.

In treating a case of neuralgia by applying to the scalp the thick, oily liquid resulting from the mixture of camphor and chloral, we found that it had a marked effect in stimulating the growth of the hair. Subsequent experience evolved the following formula:

R Quininæ sulphatis,.....3 ss
 Chloral hydrat.,.....
 Camphoræ,.....āā....3 iv
 Ol. cajuputi,.....f3 ij
 Ol. myrciæ,.....f3 j
 Alcohol, q. s. ad.,.....f5 viij

S.—Rub the chloral and camphor together. Dissolve the quinine in the alcohol, add the oils, and mix the whole. Apply a little to the scalp three times a week; followed by the vigorous use of a stiff brush.

BLADDER, DISEASES OF.

1. **Acute Inflammation.** (See Cystitis).

2. **Chronic** “ “

3. **Neuralgia.** Under this head SIR HENRY THOMPSON classes cases of vesical pain, and frequent or difficult micturition, without an appreciable anatomical lesion. **Quinine** sometimes gives relief; oftener it fails. Digestive disorders should be removed.

Constipation calls for Friedrichshall water, with laxative diet and regimen.

4. **Hypertrophy** co-exists with an obstruction at the outlet, and is compensatory.

5. **Sacculation** follows hypertrophy.

6. **Atrophy** occurs later; especially after enlargement of the prostate. The use of the catheter is then the only expedient.

7. **Paresis** from loss of nervous power occurs in hemiplegia, &c. Inability to empty the bladder may be the first sign of slowly developing spinal disease. The use of the catheter is demanded.

8. **Tumors** require no medical treatment, except for the accompanying cystitis.

9. **Tubercle** of the bladder calls for the treatment of tubercular affections generally.

We have met two cases of spasm of the sphincter vesicæ, causing great distress from the difficulty of emptying the bladder. In both cases the sphincter ani was found unduly developed; and dilatation of this muscle to the fullest extent, while the patient was anæsthetized, resulted in a permanent cure of the spasm in the sphincter vesicæ.

BOILS.

BERKELEY HILL directs that the predisposing causes be first removed, and the patient strengthened by exercise, Turkish baths, change of air, etc. The diet should be moderate and varied. Alcohol should be used in moderation until the core has loosened. An occasional saline purge should be given. **Quinine** should be given in doses of five grains every hour till the ears ring; it should then be lowered gradually to four grains daily. In obstinate cases **Vichy** water is thought to lessen the disposition to boils. For the exhausting and dangerous boil on the face, large doses of brandy, with quinine, are required.

When the boil is signalled by itching, it may be stopped by plucking out the hair of the inflamed follicle. If the areola has formed, a drop of caustic solution applied to the centre will sometimes check the progress of the boil. A better plan is to cover

it with galbanum and opium plaster spread on leather. Pain then ceases, the inflammation subsides, and the core separates painlessly. When ripe, a hole cut in the plaster allows vent to the pus. When the pain is stinging, and the areola wide, with headache and restlessness, warm starch poultices are best; causing less pustulation than linseed. They should be stopped when the hardness becomes doughy. Incisions he does not recommend. They relieve pain and check the spread of diffused boils. In the face boil, the cautery may be of use if applied early.

PIFFARD says that at the outset the boil may be aborted by touching it with a white hot needle, or with nitrate of silver, after thorough washing.

After pus has formed, apply a little belladonna ointment and poultices. When ripe, the contents should be evacuated, the part dipped in very hot water for ten minutes, and the cavity filled with absorbent cotton. Over this should be placed a piece of sheet lint, with a little belladonna ointment. No poultices should be used after opening. Internally, he gives iron, quinine and the mineral acids.

To break up the tendency to boils he recommends sulphide of soda, gr. xx ter in die; syr. hypophos, ʒij ter in die; or sulphide of calcium, gr. $\frac{1}{10}$ four or five times a day.

VAN HARLINGEN says that the various functions of the body should be regulated, and the diet should be good and varied. Quinine may be given up to 16 grains a day, with iron and strychnia. Other remedies are **liquor potassa**, ʒ x—xx in infusion of quassia; yeast, in ʒss doses; tar-water, Oij daily; and phosphorus.

DUHRING thinks arsenic of most value when the boils appear in crops. Sulphur is useful in many cases. He recommends aborting by applying crystals of carbolic acid, as better than the cautery. If the boil be farther advanced, a drop of carbolic acid and glycerine, equal parts, will often give instant relief, and stops the progress. A few drops of 5 per cent solution of carbolic acid may be injected into the apex with good results. Painting with camphor or iodine is also used. After the boil is open, powdered boric acid is recommended.

Many years since, an old country practitioner taught us to abort boils and styes by applying an ointment of red oxide of mercury, gr. ij ad ʒj; and to break up the succession of boils by giving internally a dessertspoonful, thrice daily, of whiskey saturated with sulphate of magnesia. In anemic cases 20 drops of tincture of iron were added to each dose. This method we pursued with unvarying success, until we learned to use the following prescription, which is preferable on the score of taste, and which will abort nearly every boil, if given before suppuration has occurred.

R Calcii sulphid.,.....gr. x
 Calcii lactophosphat.,.....gr. C

M. et in chart. no. x divide.

Sig.—One powder to be dissolved in a glass of water and taken during the day in small doses—the more doses the better.

At the same time the general hygiene should be attended to the great cause of boils being the breathing of impure air, especially at night. Boils are the local evidences in many instances, of sewer gas.

L. JOHNSON says that he has known of the *Alnus serrulata* being used many times by persons afflicted with crops of boils, with the happiest effect.

BRAIN, DISEASES OF.

1. Abscess.—J. HUTCHINSON says that if abscess be diagnosed with any confidence, an opening should be made. To prevent abscess in persons injured, give small doses of mercury repeated frequently, with purgatives; and keep the patient quiet.

2. Anemia.—W. R. GOWERS states that the treatment is mainly to be directed to the cause; and calls attention to the good effects of the recumbent posture. Chronic anemia calls for tonics of **iron**. In spasm of the cerebral vessels, the bromides do good. Carefully regulated food and stimulants are needed in all cases.

NOTHAGEL recommends lowering the head, the use of wine, warmth to the body, the removal of inanition by feeding, and cutaneous irritants. For extreme excitement he gives small doses of morphine (gr. $\frac{1}{12}$), or chloral.

3. Atrophy.—Treatment is useless.—E. L. FOX.

4. Compression.—Treatment, the trephine and knife.—J. HUTCHINSON.

5. Concussion.—In the stage of collapse do nothing, except to place the patient in an easy posture, and prevent cooling of the body. Stimulants should be avoided, except in extreme collapse. In the sleepy stage, spare diet, purgation, cold to the head, and quiet are indicated. In convalescence keep the patient quiet, give no stimulants, and use occasional purgatives.—J. HUTCHINSON.

6. Hyperæmia.—Raise the head. Insure perfect rest. **Bleed** in the worst cases only, when there is a turgid face and great fullness and tension of the arteries. Local bleeding is often needed. Order mustard to the feet, purgatives, diuretics, cold to the head, and avoid alcohol, tea and coffee.

W. R. GOWERS says that the most important measures are posture, bleeding, purgation, cold to the head, and warmth to the surface. The head should be raised. Bleeding is useful in extreme forms when the face is greatly flushed, but not when the congestion is due to overwork or cold, with dilated cerebral vessels and pale face. Purges are useful in all forms. Diuretics are useful in plethora. Cold to the head is of most value in reflex or secondary dilatation, after mental work, insolation, fatigue and some toxemic states. Cutaneous stimulants are useful in the same class of cases. **Heat** to the limbs is best in active congestion. Alcohol and opium must be avoided in all active congestions, but may be of use in passive forms. Bromide of potash is useful in cases of vasomotor origin. In passive congestion from heart disease, the latter affection calls for treatment. Persons liable to congestions of the brain should live regularly, avoid hot rooms, and attend to the stomach and bowels.

In all forms of active cerebral hyperæmia we have found dilute

hydrobromic acid of service, in doses of one drachm every four hours. The diet should be of fruit and fresh vegetables, avoiding nitrogenous, starchy and saccharine articles, hot soups and beverages. The meals should be always light, and care should be exercised to avoid increasing the blood pressure by indulgence in fluids to excess. The alkaline waters are the best drinks, but even they may do harm if taken to excess. Everything which tends to excite anger or any other strong emotion should be carefully avoided. Interdict malt liquors, above all things.

In cases resulting from overwork of the brain, when mental work brings on confusion, headache or heat of the head, every variety of brain-work should be interdicted for a long period; while efforts should be made to divert the nervous forces to the other parts of the organism by exercise, etc. The bowels should never be allowed to become constipated; but purgatives must not be given indiscriminately or too often. **Salines** are best when general debility co-exists, **colocynth** for plethora, **aloes** for torpidity of the rectum, or for amenorrhœa. We have used **gelsemium** with advantage in cases where an irritable condition of the brain existed, similar to the crethism witnessed in spermatorrhœa. Bromide of potash is not so good as hydrobromic acid, as the former drug is apt to disorder the stomach, and depress the muscular force needlessly.

7. Inflammation.—J. HUTCHINSON says that when symptoms of cerebritis are manifest it is usually too late for treatment. Hence, measures of prevention are important. He places first the early use of **mercury**, followed by cold to the head, purgatives and counter-irritation.

8. Softening.—W. R. GOWERS says that during an acute attack the patient must be kept at perfect rest, with the head raised, with the room at a moderate temperature. During shock, hot water bottles should be applied to the skin. Gentle laxatives should keep the bowels open, but purgation should be avoided.

Give small doses of alcohol to stimulate the heart to its normal force, but no more.

The irritative stage is to be treated with purgatives, dry cups, and rarely leeches.

Early and repeated convulsions demand sinapisms to the neck, and the bromides in large doses. After the attack, recovery is aided by the general tonic regimen.

Chronic softening needs the same treatment. The arterial tension must be kept down by low diet, and prompt purgation when an increase occurs.

9. Syphilis.—Fox thus epitomizes the medical treatment of brain tumors: If they be syphilitic or aneurismal, large doses of iodide of potash may be useful. This drug also helps to disperse the results of accompanying meningitis. Beyond this there is little to be done, except to support the strength and relieve pain.

It is well to remember that in all cases of syphilis of the brain, though we may cause absorption of the specific growths, this will not restore the nervous tissue which has been destroyed. Hence, the most energetic treatment should at once follow the diagnosis of cerebral syphilis. Mercury by the mouth and by inunction, as well as the largest doses of the iodides, forms the most effectual treatment. We prefer the mercurial pill; which we have given to the amount of 15 to 30 grains per day, in divided doses, for over a year, without a day's intermission, and with none but good results. A drachm of mercurial ointment may be rubbed into the skin on the inner side of the thighs, twice daily. Now, we use an ointment of oleate of mercury in lanolin for that purpose. Iodide of potash or soda may be given in 20 grain doses, well diluted, up to $\bar{3}$ ss in a day, if the stomach will bear it. By such heroic measures we endeavor to preserve the cerebral tissues, and destroy the specific products, before the damage is done.

HEUBNER also recommends the inunction of mercury. He says that we must disregard the usual counter-indications, using the drug in spite of debility, etc. The inunction of 60 to 80 grains daily should be continued fourteen days; then, if better, every other day for some weeks, and finally half the dose some weeks longer. YVAREN truly says; "The treatment must be as obstinate as the disease."

Iodide of potash is slower than mercury. It is indicated when the affection is confined to a single nerve, where it is

limited in extent, where grave cerebral symptoms are absent, and where the course resembles general paralysis. It should be given in doses ranging from 15 grains to two drachms daily. When paralysis, contractions, partial spasms, etc., remain, perhaps due to syphilitic material or cicatrices remaining, the iodide should be continued for months, with steam or sulphur baths.

Insomnia calls for chloral.

Neuralgia requires morphine injections.

Congestion is met by local bleeding or ice bags, never by venesection.

Somnolence indicates the necessity for wine, musk, etc.

Paralysis remaining, is to be treated for months or years, by gymnastics, massage, frictions, and electricity; employed daily.

GOODMAN gives iodides in enormous amounts; up to an ounce in a day.

10. Aneurism.—LANGENBECK recommends hypodermic injections of **ergotin**, gr. $\frac{1}{2}$.

GOWERS advises **iodides**, rest, and regulation of the vascular tension, as recommended in the article on softening.

In some cases, where progressive paralysis of the orbital nerves indicates aneurism of the internal carotid, ligation of the common carotid has been resorted to with success.

11. Tumors.—OBERNIER calls attention to the fact that intracranial tumors are often due to injuries of the cranium. To prevent such growths, it is wise after an injury, to use all means of preventing hyperæmia of the brain. Hence, alcohol and other brain irritants must be avoided, and plenty of sleep be secured. If incipient signs of a tumor appear, the local hyperæmia must be lessened by the use of leeches to the nasal septum and the mastoid process, ice to the skull, low diet, and purgatives. In those predisposed to tubercle, all excitement must be removed; and all debilitating measures laid aside. The seton is the best derivative. Iodide of potash should be tried.

WUNDERLICH recommended the long-continued use of arsenic, but it is of doubtful utility. Headache calls for morphine injections, convulsions for bromides, paralysis for the constant current, constipation for magnesian waters.

BREAST DISEASES.

1.—SORE NIPPLES. FORDYCE BARKER, recommends,

℞ Plumbi nitrat.,.....gr. xv
Glycerinæ,.....f ʒ j

M.

He also orders the nipples to be painted with **tinct. benzoin. comp.**, as soon as the child is taken from the breast.

If ulcers begin, paint with **nitrate of silver**, gr. x to f ʒ j.

For inflamed nipples he orders a bread and milk poultice to be applied for a few hours, and then covers the nipple with a soft linen cloth wet with the following :

℞ Ext. opii aq.,.....3 j
Liq. plumbi subacet. dil.,.....f ʒ ss
Aque rosæ,.....f ʒ iijss

M.

When nursing can be resumed he substitutes the following :

℞ Acid. tannic.,.....3 ij
Glycerinæ,.....
Aq. rosæ,.....āā f ʒ ij

M.

BROCHARD dusts the nipple with **suberin**, after first washing and drying. Suberin is an impalpable powder of cork.

HUEBNER, in all lesions of the nipple and areolæ, uses compresses wet with lukewarm **lead-water**. Fissures, etc., are touched twice a day with **balsam of Peru**.

CHARRIER recommends **picric acid**. After thorough cleansing, the solution, 3 to 200 of water, is pencilled on the cracks ; while after suckling, the nipple is held for four minutes in a solution of 1 to 100.

DE BORDIER uses only **quinine** internally.

DRUITT recommends,

℞ Acid. tannic.,.....gr. iv
Aque dest.,.....3 vj

M. S.—Apply on lint, covered with oiled silk.

BLACQUIERES:

R	Ext. krameriæ,.....	gr. xv
	Ol. amygd. dulc,.....	gr. xxx
	Ol. theobromæ,.....	3 ijss

M. S.—Apply after nursing.

R	Zinci oxid,.....	
	Sodæ borat,.....	āā gr. jss
	Ol. amygd. dulc,.....	f3 jss
	Ol. theobromæ,.....	Θ iv
	Ol. bergami,.....	gtt. v

M. S.—For sore nipples.

ROUTH prefers the **civeolia levigata** to all other soothing powders.

HAUSSMAN recommends a five per cent. solution of **carbolic acid**.

ALBERT H. SMITH employed,

R	Emplast. plumbi,.....	3 ij
	Ætheris,.....	f3 ss
	Collodion flexil,.....	f3 j

Powder the plaster, add the ether, and mix well; then add the collodion. Apply with a brush over every portion of the carefully dried nipple, except the mouths of the milk ducts.

In the VIENNA HOSPITALS **salicylic acid** is used, in four per cent. solution.

The nipple shield is a nuisance. Though it relieves the mother from pain, the child is rarely able to nurse through it enough to sustain him, and after the need for the shield has passed away the child often refuses to nurse the breast without it. Rather than make use of it we would recommend the mother to cease nursing.

2.—INFLAMMATION.—BIRKETT says that great attention should be given to the nipples of primiparæ. The infant must be compelled to nurse from both breasts, so that neither will become too full. If the ducts be obstructed with coagula, the latter should be removed. Fissures should have soothing applications, and should be protected from the friction of the dress. If there be much secretion from the glands, a little drying powder, such as arbonate of magnesia, should be dusted over the nipple.

When congestion of the gland exists, support with adhesive straps is useful.

Inflammation calls for warmth and moisture. The poultices should be continued after the pus has been evacuated. The breast should be supported by a bandage. An opening should be made as soon as fluctuation can be detected. The general health demands supporting measures throughout. It is not likely that the measures usually employed to harden the nipples before confinement amount to much. The sudden development of the nipple leaves gaps in the continuity of the epithelium which require time to fill up. The irritation of nursing, the mingled saliva, decomposing milk and perspiration, all combine with the friction of the clothes to set up inflammation. The mother dreads to put the child to the raw nipples and the milk collects in the breast, and becomes lumpy. Perhaps the best preventive is drawing the nipple out and rubbing it with a little sweet almond oil. This should be done daily, for a month before the child is born. A pump may be used, but it is better to draw the nipple out with the lips.

After the baby is put to the breast, the nipple should always be washed with luke-warm water, containing borax, gr. xx, acetate of lead, gr. v, sulphate of zinc, gr. j, or better than all, tincture of benzoin, gtt. xx, to the ounce. After washing, the nipple should be well dried with a piece of soft linen, and powdered with bismuth, which is perfectly harmless to the child. When lumps form they should be dissipated by gentle friction, with the fingers dipped in hot lard.

BARTHOLOW recommends that **phytolacca** be applied when suppuration is threatened. I have many times succeeded in aborting a threatened abscess of the breast by covering the organ with an ointment of this drug, or with cotton soaked in the fluid extract. Of late I am in the habit of administering internally also, the **sulphide of calcium**, gr. j, daily, in divided doses. I have found this treatment more efficient than the use of belladonna or camphor, and less apt to stop the secretion of milk. The breast should always be supported by a well-arranged bandage. **Quinine** should be given in doses of five grains, every four to eight hours. While these measures will generally, perhaps always,

check a threatened mammary abscess, they are not the only weapons at our command.

I was once called in to see a poor woman, a few days over her labor, who had just suffered a chill. One breast showed that an abscess was forming. I offered to prescribe, but found the family were penniless. Unfortunately I was for the moment in the same predicament, having forgotten my purse. Accordingly I directed the husband to apply to his wife's breast, flannels wrung out of very hot water, and changed every minute. The directions were followed during the day and night; and the abscess had disappeared by the next morning. [W. F. W.]

If in spite of our efforts suppuration should occur, the abscess should be opened early, by a free incision parallel to the milk-ducts; and the case is treated subsequently on surgical principles. **Quinine** should be long continued, with a rich diet, not too largely fluid. Prolonged suppuration in an inflamed breast, with the further drain upon the system of nursing, offers an unusually suitable opportunity for the tubercle bacillus.

BILLROTH puts the patient to bed, on low diet, as long as there is fever; and applies a bandage. Poultices relieve pain and prevent abscess. If lactation be interrupted, apply mercury or **iodine** in ointment. Abscesses should be opened early, with strict antisepsis, and a drainage tube introduced.

FORDYCE BARKER endeavors to abort the abscess by applying **iodine**. If this fails, he uses poultices. To relieve pain and give rest he orders Dover's powder or Tully's powder, which is,

R Camphoræ pulv.,
 Cretæ prep.,
 Glycyrrhiz. pulv.,ãã gr. xx
 Morph. sulph.,gr. j

M. S.—Dose same as Dover's powder.

If there be an epidemic tendency to suppuration, he avoids all depressants and gives quinine in full doses. He does not trust local treatment, but opens the abscess early.

In acute cases he recommends vascular sedatives, salines,

anodynes and low diet. In those cases which pursue a more chronic course he gives tonics, stimulants and nutritious diet. Nursing is forbidden. If the secretion of milk be active, the breast must be rubbed with sweet oil till soft; then covered with extract of **belladonna** softened with glycerine. After the abscess has been opened, adhesive straps are applied so as to support the breast, and compress it firmly from circumference to centre.

PLAYFAIR combats fever with aconite, gentle salines, and quinine; and relieves pain by opium. He recommends rest in bed, the suspensory breast bandage, poultices sprinkled with belladonna liniment, and early opening of the abscess, under strict Listerism.

CHURCHILL advises bleeding or leeching in high fever, followed by poultices, and brisk saline purges, with tartar emetic.

Q. C. SMITH, of California, recommends the following:

R Chloral hydrat,..... $\frac{3}{4}$ ss
Ol. lini,..... f $\frac{3}{4}$ iv

M. S.—Apply on flannel, to cover the breast, leaving the nipple bare. Apply warm, and keep warm. It should be renewed every four hours till the symptoms subside.

HUNTER MCGUIRE thinks that proper bandaging will cure most cases of chronic suppuration, without slitting up fistulæ, etc.

A. THOMPSON, of London, recommends **tinct. aconiti rad.**, $\mathfrak{m}$ j, every hour, and total abstention from fluids for some days.

C. B. KEIPER, of Indiana, recommends no other application but **ammonium chloride**, $\frac{3}{4}$ j to cool water O ij, applied continuously until well.

H. MILLER, of Glasgow, recommends a very strong preparation of belladonna, kept fluid by collodion, and combined with camphor.

KURZ, of Tuebingen, treats his cases by applying cold, in the form of cold compresses or ice bags. In two years, not one case

went on to suppuration under this treatment, though when he relied on compression, suppuration often occurred.

WINCKEL applies dry heat if acute pain persists after the use of cold. He gives also large doses of **iodide of potash** for headache and coated tongue.

2.—HYSTERIA. In hysteria of the breast the ordinary treatment of this neurotic condition is indicated.

3.—NEURALGIA. (Mastodynia).

FORDYCE BARKER found a full dose of quinine an efficient remedy.

TANNER advocates **valerianate of iron** or of zinc, tinct. cimicifuga, and aconite for engorgement. Cod-liver-oil sometimes cures when other remedies fail. Assurance that cancer is not present is always necessary.

ANSTIE recommends rest for the organ, and morphine hypodermically, with attention to nutrition, and iron with strychnia internally.

4.—GALACTORRHOEA. ATKINSON recommends a generous diet, abstinence from fluids, and the use of astringent tonics. If not checked, and the health fails, lactation must be suspended.

L. DE SINETY says the best remedy is compression.

ROUTH claims for four remedies the power of checking the flow of milk; namely, iodide of potash, belladonna, colchicum and iron. Of the first, it lessens the milk and removes knots, if the child be not nursed. The dose is five to eight grains daily.

Belladonna will completely stop the secretion of milk. The extract should be applied freely to the breast, but not to the nipple. Cows are said to be dried up by eating **colchicum**. Drinking ferruginous waters has also been known to cause cows to go dry. In plethoric women **iron** lessens the quantity of milk secreted, but increases it in anemics. Leaking of the breasts is

prevented by brushing flexile collodion around the nipple. Astringent applications are also useful. Internally strychnine is of value. **Camphor** has undoubted powers in drying up the milk.

Ergot has been used for the same purpose.

5.—INSUFFICIENT SECRETION OF MILK.

FONSSAGRIVES gives the following:

To increase the milk, abundance of succulent food, fresh air, plenty of sleep, exercise and bitter tonics, are rational measures. In Brittany, cider, beer, and oatmeal have a wide reputation. **Gallega officinalis** has the same credit.

To establish anew the secretion which has ceased, the best remedies are suction, castor oil plant leaves in infusion, and faradisation. The latter should be confined to the gland, and should be continued with moderate force for twenty minutes.

ROUTH calls **electricity** a powerful stimulus to the breast. He recommends food rich in phosphorus: fish, oysters, crabs and conger eels, as well as lentils, peas, beans, and mushrooms. The best drink is **milk**, with or without stout. Among drugs, he has found useful the saponaria vaccaria, souchus arvensis, and ricinus communis. The latter is remarkably beneficial. If it act as a diuretic, the breast should be kept warm. The tapioca plant is said to have the same effect. Coronilla juncea, or milk weed, is second only to the ricinus. Common salt is a galactagogue.

WINCKEL requires good diet, tonics, stimulants and fennel seed tea.

EPHRAIM CUTTER recommends a diet of unbolted flour, meat, and vegetables; the mineral constituents of the bran contributing, in this author's opinion, to the free formation of milk.

Other remedies proposed from time to time are:

Injections of caustic potash,	(Kiwisch)
Lotions of nitrate of silver,	(Hauck)
Lotions of oak bark,	(Hauck)
Lactophosphate of lime and iron,	(Lange)
White agaric,	(Joulin)
Uterine douches to produce hemorrhage,	(Abegg)

besides quinine, ammoniated iron, alum, quassia, belladonna, gossypium, jaborandi, fomentations, and chlorate of potassa.

The best of all remedies to increase the flow of milk is **jaborandi**, given in doses of five drops of the fluid extract every two hours. It is certain and speedy. With it alone I have restored the secretion of milk when it had disappeared for two weeks. But the subsequent history of this case was so peculiar that I will relate it. The woman was one of a family of sisters, large, portly women, fat and plethoric, who bore children in rapid succession, whose vital power was deficient. None of the sisters had much milk. Finally, in this case, the secretion totally ceased a few weeks after the birth of the child. I was not apprised of this circumstance for two weeks. I then ordered the jaborandi, and in two days the milk returned. But in less than two weeks I was sent for in haste, to find that the mother had become melancholy. She lay in bed, fearing to trust herself out of her room lest the impulse to kill her family should prove irresistible. She slept none, had no appetite, and whenever the child nursed, felt as if it were "drawing her lungs out." I took immediate steps to dry up the milk, and when this was done the melancholy disappeared, to my great relief. [W. F. W.]

Alcoholic beverages, and especially malt liquors, cause a temporary increase of milk. The mother who is fatigued with her work will take a glass of beer, and in a few moments the flabby breast will be distended, and the infant can be fed. But when this has been repeated for several days, the breast will cease to secrete except with the same stimulus. This converts the occasional habit into a permanent one. As would be naturally expected, such milk is not wholesome, resembling the swill milk concerning which a great outcry was made some years since. The mother will grow coarse and fat, but the child will not thrive until it is weaned. After that the difference in the health of the child is sometimes striking.

Stimulants should have no place in the diet of the nursing mother. Rich and abundant food is the only true and safe galactagogue. **Cod-liver oil** with lime forms the most universally appropriate of foods. Lentil soup, oatmeal, meat and cheese, are the most essential elements to enrich the milk.

BRIGHT'S DISEASE.

1.—ACUTE. T. G. STEWART prefers to subdue the congestion by the use of leeches or cups, hot fomentations and counter-irritants. Venesection is only admissible at the beginning, or when severe exacerbations occur with anuria. Iodine and croton oil are the best counter-irritants for more chronic states. The tubules are to be washed out with diuretics, such as water and **digitalis**, which is safe even in hematuria. It may be combined with sweet spirits of nitre, acetate of potash, or iron. Its action is often favored by squill and ammonia. If diuretics fail, or the symptoms become threatening, he gives jalap or elaterium in full doses. To excite the skin, pilocarpine, hot air, vapor baths and the wet pack, are the most efficient agents. The bowels and skin must be kept at work throughout.

When dropsy persists after the first stage has passed, cream of tartar, juniper and broom are of use. **Iron** must be given to restore the wasted blood. Ergot, gallic acid, and belladonna are believed to check the loss of albumen. The diet should be not too albuminous at first. Milk is well borne. It is a good diuretic and nutritious, but no more. In chronic stages, the diet should be very nourishing, and stimulants may be needed.

2. In the waxy form, the causal affection is to be treated; carious boni, chronic suppuration, syphilis, etc. Iron, quinine, strychnine and syrup of phosphates are useful, together with good food and an easy life.

3. We possess no remedy to influence the cirrhotic form.

4. Combined forms must be treated on general principles.

Nausea is best treated by counter-irritation to the epigastrium, by ice, milk, and hydrocyanic acid internally.

Diarrhœa must often be let alone; or may receive the usual astringent and sedative treatment.

Ascites is treated as dropsy, and may require tapping.

Peritonitis requires hot fomentations, and the careful use of opium.

Iron and other hematic tonics are demanded throughout.

Hemorrhage calls for combinations of **pernitrate of iron**, local astringents, ergot, gallic acid or acetate of lead.

Hydropericardium and pericarditis receive the usual treatment. Bronchial catarrh must be carefully attended to; by avoidance of cold, by counter-irritation, and by expectorants.

Oedema of the lungs demands counter-irritants, and remedies for dropsy. Hydrothorax may demand paracentesis.

General dropsy, pneumonia, pleurisy and phthisis receive the ordinary treatment of those conditions.

Headache is relieved by iron, hot or cold water to the head, quinine, or inhalations of amyl nitrite.

Uremia demands cups over the kidneys, free purgation, hot air baths, bleeding in puerperal cases, the bromides in drachm doses, and inhalations of chloroform.

In chronic uremia, counter-irritation is of service.

The eye affections are benefited by the iodides.

W. ROBERTS recommends wet cups to the loins, repeated when uremia, headache, etc., occur. This should be followed by poultices, hot air baths, citrate of potash, or liq. ammon. acetat. with tincture of hyoscyamus.

BARLOW recommends **tartar emetic**, gr. $\frac{1}{4}$ — $\frac{1}{8}$ every four hours. Compound jalap powder should be given every other day. Mercury is objectionable. Citrate of potash is useless when hematuria remains after fever has subsided. Meat should be avoided in the early stages. During the decline diaphoretics should be continued. Iron must be cautiously substituted in convalescence. If given too soon the acute symptoms may return. Hamburger recommends quinine in convalescence, in doses of gr. viij, daily. The slightest exposure may suffice to bring the symptoms back. Flannels should be worn next the skin. The patient should not be allowed to leave the room till albumen has disappeared from his urine.

In treating complications, cantharides and turpentine should be avoided. For the vomiting, creosote or chloroform in ice water may be given.

In chronic Bright's disease the objects are to hinder the extension of the disease, to prevent uremia and inflammations, and to palliate symptoms. The occurrence of albuminuria should be an indication for operative measures in necrosis, etc. Counter-irritants are

useless. The patient should be clothed in wool. The action of the skin should be sustained, the bowels regulated, the diet light. Milk agrees well. Light wines or beer are allowable. Saturate the system with **iron**; give twenty drops of the tincture twice daily. If this produces headache, substitute the milder chalybeates.

The patient must be made to consider himself an invalid who must live by rule. Dropsy is best met by **hydragogues** and **warm baths**. Diuretics are of little use. Tension of the skin is to be relieved by incisions an inch long, penetrating the subcutaneous tissue. The limb is then wrapped in hot, moist flannels, which must be changed and the parts washed every two hours. TRAUBE washes the incisions with chlorine water. Erysipelas will rarely follow.

Contracted kidney calls for iron, tonics and mineral acids. Bronchitis and other inflammations require aconite, antimony and digitalis, with chloroform epithems, poultices and dry cups.

Dyspeptic symptoms need careful diet, bitters, prussic acid and antacids. Vomiting of uremia requires creosote, morphia and ice; while diarrhoea must be combated with lead, opium and sulphuric acid.

Uremic symptoms demand speedy action on the skin, kidneys and bowels. **Chloroform** is the best palliative for the convulsions. Venesection is a powerful weapon where the strength allows its use, as in acute cases. In chronic cases its use is limited to those in which coma comes on rapidly, in patients who are as yet reasonably strong, and to cases where there is an absolute necessity of restoring consciousness even at the expense of shortening life.

LOOMIS condemns the treatment by diaphoretics and hydragogues. He endeavors to remove the exudation by means of digitalis, combined with spirits of nitrous ether, acetate of potassa, iron or squills. Dry cups should be applied over the loins, followed by poultices.

If uremic symptoms be still urgent, hot air baths and hydragogues, or pilocarpin, may be temporarily used to tide over the danger. Milk should be the only diet.

When the urinary secretion is re-established, digitalis should be discontinued.

For coma or convulsions, hypodermics of **morphine** may be used, but not chloroform. If one-sixth of a grain should not arrest the spasms, the morphine must be increased to one-half a grain, and the injections repeated every two hours. The object is to control the spasms, and the pupil and the number of respirations are not reliable guides in its administration.

In chronic parenchymatous nephritis the same diuretics must be continued. Digitalis may be combined with iron. Milk is still the best diet. Wine may be usefully taken, with food, in small amounts.

In the later stages the debility necessitates careful feeding, and cod-liver oil. Urgent symptoms may be relieved by the hot air bath. Pilocarpin is prompt and effectual, but dangerous. Depleting measures should only be used when absolutely necessary. Constant care, living in a warm climate, and living by rule will prolong life indefinitely.

In cirrhotic kidney, mercury is only admissible when cirrhosis of the liver co-exists. Alkaline waters are recommended. Permanent residence in a warm climate is the best remedy. Iron aggravates the nervous symptoms; cod-liver oil with hypophosphites suits some cases. Death may be long postponed by care.

In waxy kidney, remove the cause and give cod-liver oil, iodide of iron, and other tonics.

DAVIS recommends in acute Bright's disease, in addition to other remedies already mentioned, calomel and nitre, $\bar{a}\bar{a}$ gr. v, repeated every three hours till four doses have been taken. If the bowels be not thereby moved, he substitutes salines. If the febrile symptoms be prominent, he gives also the following:

R Liq. ammon. acetat,.....f $\frac{3}{4}$ ij
 Sp. æth. nitros,.....f $\frac{3}{4}$ j
 Tr. verat. virid,.....f 3 j

M. S.—f 3 j, every four hours.

If uremic symptoms supervene, he gives jaborandi at once.

In chronic cases he rigidly excludes alcohol, and gives milk, farinas, some vegetables, and but little meat. Buttermilk or whey are the best drinks. In the early stages alkaline mineral waters, such as the Bethesda, are useful; also the following:

R Potass. nitrat.,..... $\mathfrak{z}$ iv
 Ext. galii fl.,..... $f \frac{\mathfrak{z}}{3}$ ijs
 Ext. uvæ ursi fl.,..... $f \frac{\mathfrak{z}}{3}$ ijs
 Ext. ergotæ fl.,..... $f \frac{\mathfrak{z}}{3}$ j

M. S.— $f \frac{\mathfrak{z}}{3}$ j, four times daily.

He has seen marked improvement in many cases follow the use of bichloride of mercury in small doses, with tonics.

When incisions become necessary to relieve tension, the improvement which follows is not always temporary.

BARTHOLOW calls attention to the value of **chloride of gold**, gr. 1-24 ter in die, in granular and fibroid kidney and depurative disease.

DA COSTA, for an acute case following scarlatina, orders the following :

R Pulv. ipecac. comp.,.....gr. iij
 Potas. nitrat.,.....gr. v

M. S.—Take at bedtime.

R Liq. ammon. acetat.,..... $f \frac{\mathfrak{z}}{3}$ iij
 Sp. æth. nitros.,..... $\mathfrak{xx}$
 Syr. tolu.,..... $\mathfrak{xx}$ xxxvij
 Tr. digitalis,..... $\mathfrak{xx}$ iij

M. S.—Thrice daily.

For chronic cases :

R Tr. ferri chlor.,..... $f \frac{\mathfrak{z}}{3}$ ss
 Acid. acetici,..... $f \frac{\mathfrak{z}}{3}$ ss

M. et adde :

Liq. ammon. acet.,..... $f \frac{\mathfrak{z}}{3}$ v
 Curacœ,..... $f \frac{\mathfrak{z}}{3}$ ij

M. S.— $f \frac{\mathfrak{z}}{3}$ j, thrice daily.

S. WEIR MITCHELL calls special attention to the importance of the **milk diet** in chronic forms of Bright's disease. TARNIER relies on it exclusively in that form which occurs in pregnancy.

The following rules are to be observed :

1. The diet must be *exclusively* milk.
2. It may be used in the form of skimmed milk, buttermilk, pepsinized milk, or in some cases, koumiss.

3. It should be taken every four hours, not cold, in quantities varying from half a glass up to a pint, according to the appetite.

4. It should be *eaten* very slowly ; each portion being mingled in the mouth with saliva.

5. It should be continued until all traces of albumen have disappeared from the urine.

6. Fruits may then be added to the diet, for one month ; when, if albumen be still absent, farinacea may also be allowed. After another month of freedom from all evidence of the disease, meat may be cautiously given, but on the reappearance of albumen, meat must at once be withdrawn. This treatment is best suited to cases occurring with pregnancy or subsequent to it. One such case, in which convulsions had occurred during labor, and uremic symptoms with albuminuria and fatty casts were present for many months subsequently, recovered under the milk diet. The treatment lasted seven months. The lady has remained well for eight years, and has borne several children in that time. Exposure to a cold wind, however, is sure to bring on a headache. In fact, anything which tends to increase the work of the kidneys beyond their usual task, suffices to cause the headache.

For the dropsy and albuminuria occurring during pregnancy, nothing has in our hands equalled **buttermilk** in efficiency, as a diuretic. We order two quarts daily, as a beverage. Next to this, in cases where it can not be obtained, or does not agree, the following will be found reliable :

R Acid. benzoici,..... ʒ ss
 Chloroformi,..... f ʒ ss
 Potas. acetat.,..... ʒ j
 Aquæ, q. s. ad,..... f ʒ vj

M. S.—f ʒ ss, every four hours.

In the treatment of convulsions, **morphine**, the dread of our fathers, is pushing chloroform aside. **Pilocarpin** is replacing bleeding and hydragogues, for cases where a speedy effect is necessitated by alarming symptoms.

BRONCHITIS—(ACUTE.)

The patient should be confined to one room, and if the case be severe, should be put to bed.

The temperature should be kept constantly between 60° and 65°. The air should be moistened by steam, which should be frequently inhaled by the patient for ten or fifteen minutes at a time. When the room is heated by stoves or by a furnace, a wet towel should be hung near the source of heat (in front of the register or stove), with the lower end dipping into a basin of water. The patient should drink plenty of warm drinks, such as ginger tea. He should not be put into a cold bed, or sleep in a cold room. The chest may be rubbed with the linimentum ammoniæ of the U. S. P.

With this the treatment ends, in cases of ordinary severity. Before going out the patient should have several sponge baths of lukewarm water with a little vinegar added. If the cough be severe we may give small doses of **morphine**, $\frac{1}{16}$ to $\frac{1}{6}$ gr. every two to four hours. If there be much soreness and irritability of the trachea, **bromide of potash**, gr. x, and **cyanide of potash**, gr. $\frac{1}{8}$ may be added to each dose.

For moderate fever we may give **citrate of potash**, gr. x every hour; or if the fever be unusually severe, we add to this **tartar emetic**, gr. $\frac{1}{16}$ to $\frac{1}{6}$. We have never been able to satisfy ourselves that the expectorants were of any use whatever in acute bronchitis. The hygienic management detailed above, especially the inhalation of steam, suffices in most cases. The diet should be mainly of hot soups, tea, coffee or cocoa, with light farinaceous substances. In aged persons **alcohol** in any desired form should be used from the start. The food should be rich and easily digested, oyster, beef, or chicken soup, milk, soft-boiled eggs and milk toast. Antimony and all other depressants must be watched carefully; though there are cases in which they are requisite. The frequency and force of the respiration should be noted at every visit.

In young infants, **ippecac** should replace antimony. An **emetic** should be given every night before retiring, in order to clear the lungs and give the child a chance to rest. Feeble infants whose bronchial mucous membranes are not much irritated, and whose cough is insufficient to clear them of mucus, are not infrequently smothered while asleep, for want of this evening emetic. Morphine is a dangerous remedy for the very young, as for the

very old. So much the more should the hygienic regimen be carried out in their case, since our chief reliance must be placed upon it. Whenever the strength shows signs of failure, recourse should be had to **cod-liver oil** with **lime**, hot salt baths, and brandy.

WATERS recommends the stereotyped mercurial followed by a saline in the beginning. He gives ipecac in the first stage, with diaphoretics, but when secretion is established substitutes **ammonia** and other stimulants. For the cough he gives **chloral** with oxymel of squills. This also allays any spasm of the bronchial tubes which exists, and procures sleep. Alcohol should be given after the first stage, to increase expectoration and prevent apnœa. This, with carbonate of ammonia, forms our main reliance in the aged. Threatened apnœa has been averted by large doses of turpentine.

Gouty bronchitis requires colchicum. Bronchitis with disease of the mitral valve is benefited by digitalis.

RIEGEL wisely calls attention to the importance of avoiding the causes of bronchitis; such as breathing air loaded with smoke, dust, and other irritants. The use of **respirators** by those whose occupations compel them to breathe impure air should be encouraged. The best respirator is a flat sponge, which can be moistened and fastened over the mouth and nose. An incredible amount of dust is intercepted by this contrivance. We have been assured by workmen that sometimes the sponge must be washed out every fifteen minutes; the dust hindering respiration.

Children should be toughened by cold washing, douching, rubbing and the like. Such methods are not suitable to feeble children during their first year. Here we should improve nutrition and protect from catching cold. Hot salt baths and cod-liver oil with lime play a very important part in this strengthening process. In summer the child should be exposed to the sea air and the direct rays of the sun. As it grows stronger, cold baths should be gradually substituted; beginning with tepid sponging and ending with cold douches. The latter should never be prolonged; the child being simply exposed to the cold water a moment, and then rubbed vigorously with towels, until the skin is in a fine

glow. In older children or adults, coarse crash towels should be used, which have been dipped into strong brine and dried, leaving the salt in the meshes. The aged must be carefully protected against catching cold.

In those who are so predisposed to colds that all precautions are unavailing, a permanent residence in a warm climate, at least during the winter months, should be recommended.

In severe cases with high fever RIEGEL uses cold baths and bulky doses of quinine.

The best emetic is **apomorphia** in doses of $\frac{1}{12}$ to $\frac{1}{8}$ gr.

When the secretion has become loose, **senega**, ammonia, and inhalations of soda, tannin, or lime-water are useful.

Threatened collapse demands wine, musk, ether, benzoic acid, and especially **camphor**.

In young children it is wise to change the posture occasionally, to prevent hypostasis. Sometimes it is necessary to use cold douches, to induce the child to take free inspirations and free the tubes from mucus. Cold packs, baths, and quinine are used for fever.

Expectorants are useless, narcotics unsafe.

LOOMIS thinks that at the outset the attack may be arrested by a Dover's or Tully's powder and a warm bath at night, followed by a brisk saline purgative or a dose of castor oil in the morning. Quinine or salicylic acid, in scruple doses often aborts an attack in adults.

If the disease show a tendency to become chronic, or to extend to the smaller tubes, ten grains of quinine should be given; or in children, cod-liver oil with lime.

A succession of small blisters to the posterior portion of the chest will be of service after the acute stage is past.

DAVIS recommends in the first stage in acute and severe cases, in robust persons, bleeding by the arm, leeching or dry cupping, according to the age and severity of the attack. After these measures, or without them, he envelopes the chest in hot poultices or compresses, and gives internally—

R. Liq. ammon. acetat., f3 ij
Tr. opii camph., f3 ijs

Vin. antimonii,.....f ʒ ss

Tr. verat. virid.,.....f ʒ jss

M. S.—f ʒ j, every two to four hours.

For a coated tongue, constipation and high-colored, scanty urine he gives a small dose of calomel followed by a saline.

As soon as the secretion becomes loose he gives—

R Syr. scillæ comp.,.....f ʒ jss

Tr. sanguinariæ,.....f ʒ ss

Tr. opii camph.,.....f ʒ ij

M. S.—f ʒ j, every three hours, in a little water.

Sore pain in the head, aggravated by coughing, or nervous restlessness, calls for the addition of half an ounce of **bromide of potash** to the above. If the temperature rises towards evening, and the cough interferes with sleep, with early morning sweating, he gives—

R Quininæ sulph.,.....gr. x

Pulv. sanguinariæ rad.,.....gr. ss

Codeinæ,.....gr. ¼

M. S.—Take at bedtime, for several days.

Copious muco-purulent expectoration, with deep cough and weakness are best met by the following:

R Syr. pruni Virg.,.....

Syr. senegæ,.....

Tr. opii camph.,.....āā f ʒ j

M. S.—f ʒ j, every four to six hours. Add to this, two grains of **quinine** three times a day.

When nausea and vomiting attend the paroxysms of coughing, he orders—

R Acid. carbolic.,.....gr. viij

Glycerinæ,.....f ʒ j

Tr. opii camph.,.....

Aquæ,.....āā f ʒ ij

M. S.—f ʒ j, before each meal, and at bedtime. Codeine, gr. ¼ may be added to the evening dose if necessary to procure sleep.

In acute rheumatic bronchitis:

R Sodii salicylat.,.....ʒ vj

Glycerinæ,.....f ʒ iv

Vin. colchici rad.,.....f ʒ ij

Syr. scillæ comp.,.....f ʒ iss

Tr. opii camph.,.....f ʒ ij

M. S.—f ʒ j, every three hours, in a little water.

When the disease occurs in old persons, with severe paroxysms of coughing, and scanty, viscid sputa, he advises the carbonate of ammonia or soda, gr. v, in a drachm of a mixture of equal parts of fluid extract of phytolacca, liq. ammon. acetatis, and paregoric. In the beginning, a dose of pilocarpin followed by a warm bath and quinine will often break up the attack.

F. T. ROBERTS says that a Turkish bath will often break up an attack.

BARTHOLOW recommends **muscarine** in doses of gr. $\frac{1}{8}$, every three hours, to break up the attack; as this agent produces contraction of the pulmonary capillaries.

CHRONIC BRONCHITIS.—It is of the first importance to consider the general condition of the patient.

Improvement is usually manifested at once, upon confining the patient to a properly heated room, with the air moistened by **steam**. We may advantageously add such agents to the steam as are indicated by the nature of the case. Dry catarrh is benefited by alkaline inhalations, of soda or lime.

Bronchorrhœa demands benzoin, eucalyptol, oil of cajeput, hydrastis, or oil of turpentine.

In general a supporting treatment is demanded; with rich diet, cod-liver oil, tonics, and alcohol.

Syphilis, scrofula, rickets, the paludal, mercurial or saturnine cachexiæ, rheumatism, etc., require each their own proper treatment.

Plethoric men, of sedentary habits, are apt to suffer with this disease after passing the fortieth year. Such cases, besides the necessary change in their habits, are greatly benefited by the saline alkaline waters; such as those of Kissengen or **Carlsbad**. Any of the corresponding American waters may be used, except those which contain iron, which to these persons is dangerous.

WATERS recommends digitalis and iron in cases complicated with mitral disease.

Serious wasting calls for cod-liver oil; bronchorrhœa for tonics; dry catarrh for alkalies, iodides, and alkaline waters.

A relaxed insensitive mucous membrane needs **senega**, carbonate of ammonia, etc. A dry and irritable trachea, with much cough, calls for opium, chloral, henbane, or hydrocyanic acid; while if the spasmodic element be prominent, stramonium is preferred, or lobelia, ether, or hemp. Fetid expectoration is removed by the inhalation of iodine or creasote.

RIEGEL recommends in dry catarrh, inhalation of compressed and rarified air alternately.

For bronchorrhœa, he follows NIEMEYER in recommending the **balsams**, copaiba, myrrh, turpentine, ammonia, carbolic acid, and especially the mist. ferri comp.

GERHARD recommends mechanical compression of the chest for relaxation of the bronchial membrane.

RIEGEL adds that dangerous engorgement of the lungs may necessitate **venesection**.

LOOMIS recommends a long sea voyage for cases attended with emaciation. He also recommends the moderate use of stimulants, as a rule. Cases alternating with skin affections yield to arsenic and sulphate of zinc.

For bronchorrhœa, inhalations of tar, creosote, copaiba, naphtha, iodine, ammonium chloride and the **balsams** are useful. The same drugs may be given internally. For adhesive scanty sputa he uses senega, serpentaria, camphor, benzoin, and the alkalies, potash and soda.

Irritability of the mucous membrane with scanty secretion and violent paroxysmal cough indicates full doses of **opium**, hydrocyanic acid, hyoscyamus, belladonna and conium.

For bronchial spasm inhale a little ether or chloroform; or, if the spasmodic element be very marked, give the narcotics just mentioned. **Cannabis Indica** does well in these cases.

In all forms of chronic bronchitis localized irritation over the disease centers may be employed with benefit, using cups, blisters, sinapisms, croton oil or turpentine.

DAVIS advises the same line of treatment as in acute cases, using the same formulæ as indicated. He disapproves of the use

of alcohol in any form. He mentions among remedies of importance, the iodides, *grindelia rob.*, *eucalyptus*, *onoclea sensibilis*, *cimicifuga*, *asclepias tuberosa*, the hypophosphites, etc. For harsh cough, scanty expectoration and dry râles he uses sal ammoniac, iodide of ammonium, sodium or potassium, with antimony and anodynes. For abundant muco-purulent expectoration, he advises the balsams, etc., and such tonics as lacto-phosphate of lime, phosphate of iron, quinine or strychnia, with codeine, hyoscyamia or lupulin at night. In some cases good effects are obtained from the following:

R *Syr. calcii iodid.*,.....f℥ ij
 Ext. humuli fl.,.....f℥ j
 M. S.—f℥ j four times daily.

Inhalations are most useful for laryngo-tracheal catarrhs, but are less beneficial in pure bronchitis. For bronchorrhœa, one of the best combinations is the following:

R *Acidi carbolic*,.....gr. xxx
 Tinct. opii camph.,.....f℥ ij

M. S.—A teaspoonful is to be put in an inhaler with eight ounces of hot water, and the vapor to be inhaled for five minutes at a time, three times a day.

A harsh, dry cough, with little or no sputa, is relieved by adding to the above prescription a drachm of oil of Scotch pine.

An important class of cases is met in young persons between twelve and twenty years of age, with ill-developed chests, who contract catarrhs most readily, and in whom such affections tend to become chronic, resulting in interstitial pneumonia or fibroid phthisis. In the earlier stages, the daily habit of full inspirations, with exercise of the arm and chest muscles, will do more good than medicines. The inhalation of **compressed air**, for five or ten minutes, once or twice daily, produces marked and rapid improvement in the symptoms and physique. To be permanent, this must be continued for many months, and the personal hygiene must also be strictly regulated. Such persons should spend the winter season in Southern California, New Mexico, Western Texas, Mobile, Aiken, S. C., or the interior of Georgia or Florida.

In cases where scrofula or other cachexia, or general innutrition, renders sea air advisable, the Bermudas offer a suitable resort.

Care should be taken to avoid a wet soil or a dusty atmosphere.

ROBERTS advises that when patients cannot spend the winter in a suitable climate, they shall wear a **respirator** when compelled to leave the house. This is a valuable suggestion, as it enables these persons to obtain the benefits of open air exercise, without exposing their lungs to the injurious effects of cold. The respirator may be medicated with any substance suited to the condition of the lungs.

He also advises that the chest be covered with cotton or wool. Other articles used for this purpose are **oakum**, the ordinary chest protectors, and shields made of unwashed wool. Now that we have **lanolin**, the ordinary wool can be saturated with this substance. While these may have their use, it is certain that when they have once been donned they cannot be laid aside for even a day, without exposing the wearer to the risk of an almost inevitable access of fresh catarrh. The oakum may be of special utility in bronchorrhœa. Flannel should be worn the year round, except in the hottest months, when a thinner woollen garment may be substituted. Woolen stockings are of even greater importance. When compelled to face a cold wind on a winter day, some additional protection is useful, but with this exception, we believe the whole race of chest protectors is mischievous. Of vastly greater benefit would it be were we to return to the custom of the ancients, and anoint the body daily with some animal oil. We have frequently done this in the case of delicate persons who were of necessity exposed to cold. The following is an excellent formula for the purpose:

R.	Ol. anserinæ,.....	f 3 viij
	Ol. cajuputi,.....	f 3 ss
	Ol. bergami,.....	f 3 ss

M.

ANDREWS, of Detroit, recommends **nitrite of amyl** for spasmodic symptoms. He makes the valuable suggestion that while some cough is advisable, as ridding the tubes of mucus, yet as patients will usually cough more than is necessary, they should be taught to restrain the impulse.

EASTON, of Glasgow, obtained good results from:

R Ammoniaci,.....3 ij
 Acid. nitric. dil.,.....f3 ij
 Aquæ,.....f3 xij

M. S.—f3 j in gruel, thrice daily.

This is suitable for bronchorrhœa.

DA COSTA prescribed:

R Ammon. muriat.,.....3 ij
 Mist. glycyrrhiz. comp.,.....f3 ij

M. S.—f3 ij thrice daily.

NIEMEYER, however, said of the above prescription, "When one realizes that it forms one-third of the prescriptions put up in a German drug store, and that physicians not only order it for others, but devoutly take it themselves, it is difficult to realize that it can have no other effect than to disorder the digestion."

DA COSTA orders the following to promote expectoration:

R Potas. chlorat.,.....3 ij
 Tinct. scillæ,.....3 ss
 Mist. glycyrrh. comp.,.....f3 ijss

M. S.—f3 ij four times daily.

GREENHOW, of London, says that when the flow of mucus has become habitual and profuse, the following proves serviceable:

R Vin. ipecacuan.,.....:...
 Acid. nitro-muriat. dil.,.....ââ ʒ x
 Tinct. hyoscyami,.....ʒ xx
 Tinct. gentian. comp.,.....f3 ij
 Tinct. laricis Europ.,.....ʒ xx

M. S.—Take at one dose, three times a day.

PARISEL, of Paris, recommends the following formula, to be used with an atomizer:

R Pulv. cinchon. flav.,.....
 Sulphur. loti,.....ââ 3 ss
 Syr. althææ, q. s.

M.

WATSON, of London, preferred **sulphate of iron** in bronchorrhœa.

NIEMEYER also recommends this drug, in the form of **mist. ferri. comp.**

FOTHERGILL furnishes the following excellent formula:

R	Sp. chloroformi,.....	ꝯꝯ xx
	Acid. hydrobrom. dil.,.....	f 3 ss
	Syr. scillæ,.....	f 3 j
	Aquæ, ad,.....	f 3 j

℞. S.—For one dose, three times a day.

A late addition to our list of remedies is yerba santa. It is suited to bronchorrhœa.

STILLE, in commenting on the reported cures of phthisis credited to **cimicifuga**, remarks that they were probably cases of chronic bronchitis. Unfortunately the drug has not appeared in our hands to be possessed of much curative power in bronchitis, though it sometimes proves useful in aged persons and in those whose circulation is weak.

The action of **muscarine** in contracting the capillaries should render it efficient in relaxation of the bronchial mucous membranes. **Petroleum** in pills, has also been advocated lately.

HERRING, in *The Medical World*, Jan., 1885, contributes the following:

R	Ext. asclepiat. tuberos. fl.,.....	
	Ext. pruni Virg. fl.,.....	āā f 3 j
	Glycerinæ,.....	f 3 j

M. S.—3 j every $\frac{1}{2}$ to four hours, as needed for cough.

In some cases he substitutes the fluid extract marrubium vulg. for the asclepias.

The inhalation of oil of turpentine, eucalyptol or carbolic acid corrects the fetor of the contents, and stimulates the mucous membrane to cast them out. Whether any diminution of the cavity results, or is possible, is questionable at least.

It is certain that the above named agents give great relief.

BRONCHITIS.—CAPILLARY.

In old age and in infancy this is one of the most dangerous of diseases. Not only is it grave in itself, but the fatal symptoms come in so treacherous a fashion, that the patient has often passed

by imperceptible degrees beyond the reach of help, before the gravity of the case has been recognized.

LOOMIS takes strong ground against the use of depressants; which, he says, lessen or destroy the chances of recovery. He sends the patient to bed, covers him with flannels, keeps the temperature of the room at 75° to 80° F., and moistens the air with steam. Children should be placed in the steam tent as in croup. The chest is dry-cupped and then covered with an oiled silk jacket. The inhalation of **steam** usually relieves the symptoms. Oxygen inhalations relieve the cyanosis. Chlorate of potash or muriate of ammonia, gr. x to an adult, gr. ij to a child two years old, often seems to control the disease. When atelectasis is threatened, the **iodides** are beneficial.

Sometimes, when suffocation threatens and the cough is insufficient to clear the tubes of mucus, **emetics** are of service. They must not be repeated too frequently.

When debility becomes manifest, **quinine** and stimulants are indicated. The latter should be given early, and in amounts sufficient to dissipate the signs of exhaustion. For the dyspnœa, full doses of **hydrocyanic acid** may be given.

Occurring with Bright's disease, the patient should be given the largest amount of nutriment he can take.

DAVIS says that when the lobules are invaded, as indicated by undue fever, dilation of the alæ nasi during inspiration, short expiration, and diminished resonance, with fine crepitation over limited portions of the chest, certain and speedy relief will follow the application of a blister and the use of the following:

R Ammon. chlorid.,..... $\mathfrak{z}$ iij
 Antimon. et potas. tart.,.....gr. ij
 Morph. sulph.,.....gr. iij
 Ext. glycyrrhiz. fl.,..... $\mathfrak{f}\mathfrak{z}$ j
 Syrupi,..... $\mathfrak{f}\mathfrak{z}$ iij

M. S.— $\mathfrak{f}\mathfrak{z}$ j in water every three hours, for adults.

In young children he disapproves of emetics, on account of the prostration induced; but recommends the still more dangerous and useless application of leeches; which, however, he limits to the very beginning of the disease, and follows by poultices.

ROBERTS says that the majority of cases demand stimulant and supporting treatment throughout.

In one case (an infant six weeks old), recovery followed the administration of **alum** in emetic doses, and **iodide of ammonium**, gr. one-eighth, every four hours. In subsequent cases these remedies were not so fortunate. Carbonate of ammonia has been highly recommended. Our cases treated with this agent show an unbroken series of failures.

Opiates should be used with great caution, if at all, in this disease. It is all important that the small tubes should be kept open for the passage of air to the cells, and the obtunding influence of opium favors the accumulation of secretions, thus favoring death by asphyxia. It is better that the patient struggle and live, rather than to be soothed into death.

BRONCHITIS.—FIBRINOUS.

WATERS says that the chief object is to sustain the health, and he prescribes the entire tonic regimen. **Iodides** are said to be of use. In exacerbations, **ammonia** and **inhalants** should be resorted to.

RIEDEL prescribes **emetics** to remove the fibrinous masses when loosened. They should be preceded by inhalations of alkalies. Alkaline waters are also useful to prevent recurrence of the exudation. Any existing catarrh should be removed if possible.

BIEMER recommends an energetic mercurial treatment.

LOOMIS treats the acute form as he does croupous laryngitis.

In the chronic form he resorts to alkaline steam inhalations during the paroxysms. In the interval the general tonic regimen should be instituted, and all sources of bronchial irritation avoided. If these measures prove unavailing, a long sea voyage or residence in a warm climate should be advised.

DAVIS gives alterative doses of **calomel** alternately with the mixture containing paregoric, wine of antimony and veratrum, which will be found in the article on Acute Bronchitis.

ROBERTS uses inhalations, rubefacients, or a blister to the chest, and sedatives with antimony or ipecac.

There is no remedy which will prevent the recurrence of the exudation. Antimony, iodides, alkalies, mercury, inhalations of iodine, etc., have failed.

The recent remarkable success attending the treatment of diphtheria with large doses of **calomel** (gr. x, every hour), leads us to hope that the same agent in similar doses might prove equally useful here.

BRONCHIAL GLANDS; ENLARGEMENT OF.

QUAIN says that many cases of simple chronic enlargement yield to the prolonged use of **iodide of iron**, with **iodine** externally, applied between the shoulders.

If the enlargement be traced to a syphilitic origin, the treatment of that cachexia will prove efficacious.

The cough is often relieved by anodyne liniments, such as the following:

R	Chloroformi,.....	
	Tinct. camphoræ,.....	
	Tinct. opii,.....	
	Lin. belladonnæ,.....	āā f ʒ ij

M. S.—f ʒ ij to be sprinkled on spongiopiline and applied to the chest for a few minutes at a time.

Other symptoms require their ordinary treatment.

It is necessary in all cases to improve the general health by good diet and pure air, and by promoting digestion and elimination.

When we reflect how intractable are the diseases of external glands, we cannot hope for better success in treating those which are beyond the reach of the surgeon.

As a means of prevention, the early and thorough extirpation of enlarged glands which can be reached, such as those of the neck, should be advocated and practiced.

For further information, see the article on Scrofula.

CALCULI: RENAL

Only the medicinal treatment of calculi will be discussed here.

PETIT found that **Vichy** water dissolves the uric acid, cystine and xanthic oxide calculi. He details the case of one patient, who drank on the first day seven glasses of the water; the second day he drank fifteen glasses, the urine then becoming alkaline. In a few days he reached his maximum of twenty-four glasses per day. After seventeen days' treatment he passed the stone, which bore traces of dissolution. The severe symptoms subsided during the first week of treatment.

The very elaborate experiments of ROBERTS, however, showed that the potash salts are the best solvents for uric acid calculi. He obtained the best results from the administration of the **acetate** or **citrate of potash**, in doses of forty to fifty grains, in four ounces of water, every three hours. The remedy need not be discontinued if the urine become turbid, but if it becomes ammoniacal the triple phosphates will be deposited on the stone, and the solvent action will cease.

COULSON says that only calculi composed of uric acid, cystine, or urostealith are amenable to the action of solvents given by the mouth. Oxalate of lime resists any solvent which can be introduced into the bladder by any means, and the phosphate of lime and ammoniaco-magnesian phosphate require acid by injection.

Even for the removal of a small stone the urine must be kept constantly alkaline for six weeks; and this, with the diuresis, causes waste of tissue, and debility. Larger stones are usually composed of layers; perhaps of oxalate of lime, which is not affected by anything; or of phosphates, which are only affected by acids. For any chance of success the urine must be acid, the stone small, and of uric acid alone; and such cases are admirably suited to lithotripsy.

In the case of renal concretions, which are usually of uric acid, the alkaline treatment is indicated. Phosphatic calculi have been readily dissolved by washing out the bladder through a

double catheter, with a solution of dilute nitric acid, two drachms to the pint of water, used every second or third day. When, after lithotripsy, the tendency to the formation of new calculi is very great, this method is useful after the operation.

HOSKINS, of Guernsey, suggested the use of **lead** solutions for phosphatic calculi. The bladder is washed out with tepid water, through a double soft catheter, and four to eight ounces of the lead solution introduced. It should be renewed every ten minutes. Exercise and warmth favor the action. The solution is made by dissolving a grain of acetate of lead in each two ounces of distilled water, and adding five or six drops of acetic acid, to super-acidulate.

To prevent the formation of calculi, COULSON gives the following indications:

1. To remove the diathesis.
2. To prevent calculous material from being deposited.
3. To keep the urine diluted and to flush the passages.

“For the first object strict attention must be paid to the diet, exercise and the secretions. Perfect digestion and metamorphosis are required.

In uric acid calculus, the food must be simple, digestible and moderate. But little meat must be taken, and not much at a time. A strictly vegetable diet renders uric acid calculus impossible; but too much vegetable food often causes indigestion.” The aim should be to come as near to a vegetarian diet as possible, with the aid of artificial digestants, such as malt extract. Malt liquors and strong wines should be excluded. Burgundy, hock or claret may be allowed; but one variety, however, at one time. If stimulants be required, brandy and soda, or effervescing lithia water, will answer. Exercise is of the utmost importance; it should be moderate, habitual, not violent, and with long rests.

The necessity for attending to the secretions and excretions is obvious. Flannel frictions and an occasional **Turkish bath** keep the skin in proper condition. The best purgatives are the **cholagogues**.

The second indication is best met by **alkalies**. Potash is better than soda; soda is superior to lithia; ammonia is useless.

When the combinations of potash with vegetable acids are given, the acid is oxidized into carbonic acid, and the carbonated alkali appears as such in the urine. In this form it prevents the deposition of uric acid, but does not affect the tissues, and so can be given with impunity a long time.

Liquor potassa does not render the urine so quickly alkaline, but powerfully acts on the tissues, oxidizing protein substances. It is therefore useful where semi-effete substances accumulate in the blood, and is most injurious where waste is already excessive. The bicarbonate is intermediate in its effects.

Combining these indications, we have the following plan:

Blue pill gr. $\frac{1}{8}$ - $\frac{1}{4}$, with taraxacum, and perhaps compound rhubarb pill, may be given to regulate the bowels and act on the secretions. The potash salt chosen is administered in infusion of columbo. Quinine, iron and strychnia may be given as needed. Taraxacum is best given in the form of infusion. Coexisting dyspepsia with debility may require the mineral acids for a short period. They do not greatly increase the acidity of the urine, and will not cause precipitation of uric acid, while by their influence on the digestion they may prevent its formation. For this purpose they should be administered before meals.

“If patients with uric acid gravel are in otherwise good health, all that is needed is attention to diet, plenty of water and **citrate of potash.**”

In oxalate of lime calculus, ROBERTS found that the use of **mineral acids** prevents the deposition of the lime salt. The administration of lime-water will cause crystals of oxalate to appear in urine previously free from them; hence, lime should be excluded from the drink. The mineral acids have a better claim on us, from the fact that they exert a beneficial influence on the peculiar dyspepsia of oxaluria. The excess of urea which co-exists, indicating waste of food or tissue, affords another guide in treating these cases.

All known causes of undue waste must be avoided. Rest and change are powerful remedies. The food must be nourishing, but limited in amount. Sugar should be used but little, or not at all. Acid dyspepsia must be avoided.

The skin must be kept in proper condition.

GOLDING BIRD recommends for the dyspepsia **nitro-muriatic acid** in infusion of columbo. Bismuth or alkalies with ammonia are sometimes useful. Small doses of mercurial pill with taraxacum are as beneficial here as in uric acid gravel. When the digestion and health are improving the deposit of oxalate diminishes. When this salt appears in octahedra it need excite no uneasiness, but when the dumb-bell form is seen, every measure in our power should be used; as this form occurs in the uriniferous tubules. The kidneys should be flushed occasionally by drinking large quantities of lime-free water, on an empty stomach.

The same stringent rules should be adopted whenever a calculus exists, as it would grow larger under conditions which would not cause it anew.

Phosphatic calculi are formed in ammoniacal urine. The indication is to empty the bladder and wash it out twice a day with warm water, perhaps acidulated with **nitric acid**. Renic colic calls for the use of diluents, baths, morphine hypodermics, and chloroform inhalations.

When a calculus has formed, we use large quantities of liquids, with the alkalies, etc. Juniper and its confreres should be avoided. The urine should be retained as long as possible, to distend the urinary organs. Warm baths favor relaxation and dislodgement of the stone; as also do movements, riding, etc.

Strictures of the urethra should be dilated rapidly. If the calculus have passed to the bladder, it must be watched for; and if it should not appear in a few days, surgical measures should be adopted. Sometimes it may be washed out by using an aspirator and a full sized injecting catheter."

CANCRUM ORIS.

There is much confusion in the nomenclature of the diseases of the mouth. Some authors use this term to designate thrush, others diphtheria of the mouth, and still others as synonymous with noma, or gangrene. We shall follow the nomenclature of Niemeyer, and describe under this head the treatment of ulcerative or diphtheritic stomatitis.

LOOMIS recommends **chlorate of potash** as a mouth-wash and internally. If the ulceration spreads, **nitric acid** or the actual cautery should be applied. For the profuse salivation, **belladonna** is efficacious. In many cases fresh air, cleanliness, and a restricted diet are alone necessary.

CLARKE lays great stress upon the diet, which should be carefully regulated. Small doses of hyd. cum creta or of rhubarb and magnesia, should be given to regulate the bowels; together with chlorate of potash and bark. Subsequently cod-liver oil, iodide of iron or Parrish's chemical food will be useful.

Locally, he uses mouth-washes of **borax**, or if there be fetor, of myrrh or Condie's fluid.

LOUIS STARR calls attention to the importance of cleanliness, fresh air and sunlight; and of a nutritious liquid diet. Chlorate of potash is almost a specific.

R Potas. chlorat.,.....gr. xlviij
 Acid. hydrochlorici dil.,.....f 3 j
 Syrupi,.....f 3 ss
 Aquæ, q. s. ad,.....f 3 iij

M. S.—f 3j, diluted, every two hours, for a child three years old.

If a more decided tonic be required he adds **quinine**, gr. $\frac{1}{4}$ to $\frac{1}{2}$, to each dose. Locally he uses:

R Potas. chlorat.,.....℥ iv
 Acid. carbolicæ,.....gr. ij
 Glycerinæ,.....f 3 j
 Aquæ, q. s., ad,.....f 3 viij

M. S.—To be thoroughly applied to all the ulcers at least once every hour.

In severe and protracted cases **tincture of iron** and stimulants will be required.

Indolent ulcers may be lightly touched with a stick of nitrate of silver.

Loosened teeth must be let alone, as they become firm again.

All forms of food and medicine which have decided flavors will be found objectionable, as they hurt the mouth. Hence it is often difficult to feed a child with ulcerative stomatitis. **Beef peptonoids**, mixed with a little luke-warm milk, will often be found of great value. Sometimes **brandy** acts as a local anesthetic

to the ulcerated surface, and at the same time disposes it to heal. At other times we have been compelled to apply **iodoform** or **cocaine** to the ulcers in order to enable the child to take food without pain. Meat jellies, like calves' foot jelly or pig's feet, without either sugar or seasoning, are sometimes taken with comfort. When the disease is distinctly diphtheritic we have found diluted **chlorine water** better than the universally extolled chlorate of potash. In case the latter is used, no syrup or glycerine should be directed as an excipient, but the salt should be dissolved in water alone. Decoction of **sage** is another useful mouth-wash, not usually painful. The suggestion of nitrate of silver for indolent ulcers is very bad. They should be stimulated to heal by myrrh or benzoin, and by a rich diet with plenty of good wine or old stock ale.

CARBUNCLE.

Two forms of carbuncle are recognized—the simple carbuncle, which is simply a complex mass of furuncles, and Anthrax, or Malignant Pustule, a disease contracted from the lower animals.

We treat here of simple carbuncle.

VAN HARLINGEN says that the treatment should be strongly supporting. The most nourishing food and stimulants should be given freely. **Tincture of iron** and **quinine** are the best medicines—the latter to the amount of sixteen to twenty-five grains daily, in one dose. Sleep should be secured by anodynes. Fresh air and exercise are important. When the carbuncle is tense and hard, deep cruciform incisions are sanctioned by old usage, but PAGET says that most cases do equally well without them.

AGNEW paints **cantharidal collodion** around the carbuncle, in a broad band, the blister relieving tension.

HEBRA recommends cold applications for the first stage, followed by poultices when suppuration begins.

The part should be frequently washed with a solution of carbolic acid, and the slough should be removed early.

PIFFARD lays great stress on the importance of the diet, which must be rich, easily digested and varied. As regards stimulants his rule is a good one. Do not give them except in accordance with the patient's custom, unless a clear indication arises, and never give more than is necessary. Late in the disease their need becomes more pressing. Gangrenous sloughs require disinfection of the room. Internally he gives the list of tonics, and perhaps **sulphide of calcium**; especially when suppuration begins. **Morphine**, when needed, should be given hypodermically.

PAGET limits surgical interference to the following cases: In the first stage great pain may be present, which is due to tension. An incision will relieve this. When a pus cavity forms beneath the skin it should be opened as usual. He prefers for local treatment the application of lead plaster and poultices.

PIFFARD states that he has used belladonna ointment with advantage in the advanced stages.

To any one who has ever felt the atrocious pain of the knife severing a carbuncle, it would be difficult to conceive that that operation should be used merely to give relief from pain. But sometimes the tension is so great that gangrene is threatened, by the interference with the circulation. This is a manifest indication for the use of the knife.

PAGET mentions the subcutaneous section in the same terms of condemnation as the ordinary crucial incision. The suggestion of administering twenty-five grains of **quinine** in one dose is not a good one, as such doses depress the already weakened heart. If this amount be given in divided doses through the day it is far better; but even then it must be carefully watched. **Tincture of iron**, on the contrary, can scarcely be given in too large amounts. A drachm every four hours is the average dose. In a bad case, where the weakness was extreme and cold sweats supervened, the above dose was administered, alternately with **acid. sulph. aromat.** in the same quantity. The patient recovered.

Sponging the body with alcohol or hot salt water, and anointing with cod liver oil are useful measures. It has been lately proposed to excise the carbuncle at the beginning, thus saving the patient the pain and suffering.

Another suggestion, made in France, is to isolate the carbuncle from the surrounding tissues by inserting around its margin "arrows" (*flèches*) of caustic, and thus separating the carbuncular mass. We have not noticed the suggestion to dissect it out with the galvano-cautery, but from the inclination among French surgeons to use anything rather than the knife, we are certain the operation has been tried. At the very beginning of the disease, it has been proposed by advocates of the bacillary origin of carbuncle to apply pure **carbolic acid**. We would prefer an ointment of finely powdered red oxide of mercury in lanolin, which would penetrate to the bottom of the hair follicles more readily than the acid.

GARRETSON destroys the core of the carbuncle by cauterizing it with **London paste**; and then applies poultices. We have never seen a carbuncle cured as rapidly as by this process.

CATALEPSY.

GOWERS recommends a pinch of **snuff** to be given during the attack, for the purpose of restoring consciousness. **Faradisation** sometimes answers the same purpose, as also do emetics, morphine hypodermically, in very small doses, and cold douches. In the intervals the treatment is that of hysteria. Removal from home is often necessary to a cure.

ROSENTHAL says that the best results are obtained by symptomatic and moral treatment. Tonics, antispasmodics, mild hydrotherapy, neutral mineral waters, and travel, with methodical education of the will, constitute our main reliance. Occurring after ague, it may require quinine. He failed with the continuous current, and with curare hypodermically.

CALVI relieved one case by injecting tartar emetic into the brachial vein.

MILLS (C. K), says that the treatment of the seizures is unsatisfactory; remedies which relieve in one case failing in others.

Inhalations of **amyl nitrite** should have a trial. **Nitro-glycerine**, in doses of $\frac{3}{100}$ drops may prove efficient, hypodermically. Music has been used in France with success. Turpentine to the abdomen succeeded in one case. MEIGS, whose reported case was due to opium, suggested the use of purgatives.

It seems to us that more can be accomplished in this disease by attentive study of each case, than by routine treatment of any description. The functions of the digestive system, and especially the sexual status, should be particularly inquired into.

ERB suggests the powerful irritation of the Faradic brush in the paroxysms; but admits the failure of electricity as a means of preventing their recurrence.

CEREBRO-SPINAL FEVER, OR MENINGITIS.

ZIEMSEN premises his remarks upon treatment with the wise suggestion, that whenever the disease appears in one family, the dwelling should be abandoned by others, until the end of the epidemic. The linen and other articles used by the patient should be burned. Persons who are much alarmed should leave the infected district immediately. We know of no abortive treatment. Rational treatment of the symptoms favorably influences the course of the disease.

Leeches behind the ears, and ice bags are very efficacious. Cold should also be applied to the neck and back. In hyperacute cases venesection is allowable. LEYDEN favors the same measure, also in case of general restlessness. Exacerbations should be met by repeated leeching. He gives **mercury** by inunction, and calomel and jalap by the mouth, to prevent the extension of the disease, and the exudation. To prevent stomatitis, mouth washes of chlorate of potash are used at the same time. Though the efficacy of mercury is not certain, we possess no remedy which is more effectual. Salivation is not a sign of safety. Cold baths are indicated in but few cases, as the temperature is usually moderate.

Quinine may be used in hyperpyrexial cases, in doses of fifteen to thirty grains. It is useless against exacerbations in the intermittent form. Violent headache, insomnia and restlessness call for **morphine** by hypodermic injection. One-third to one-half a

grain may be given to adults fearlessly, and smaller doses administered every one or two hours to relieve the incessant jactitation. For the recurring headache it is better to inject a larger dose; which, after leeching, will quiet the most restless delirium into sleep. Morphine is one of the most indispensable remedies in the treatment of epidemic meningitis.

As palliatives, he mentions ether spray to the back and neck, and chloroform liniment frictions. Inhalations of the above agents, and large doses of chloral, are worthy of trial. Later, when the course has been protracted, **iodides** are serviceable in promoting absorption. Hydrocephalus defies treatment. The diet must be regulated by the fever. Sequelæ require their usual treatment.

STILLE found that leeching or cupping the nape of the neck was of essential service in relieving or even removing the pain. When the condition forbade the loss of blood, dry cupping was substituted with benefit. This was in an unusually mild epidemic.

RADCLIFFE states that general experience is decidedly against any form of bleeding. He recommends cold to the spine and head. If marked depression be present, he swathes the limbs in hot flannels, and uses heat in other forms, while the ice is applied to the spine. He agrees with ZIEMSEN as to the use of opium; as also does STILLE.

A committee of the American Medical Association reported favorably on the use of **quinine** in large doses at the very outset; it sometimes aborting the disease. Ergot and tincture of iron were also approved.

KLAPP, J., reported a number of cures from the early and free use of iron, in doses of twenty-five drops every two hours. **Hot baths**, followed by frictions with oil of turpentine when the surface was cold, were recommended by the same committee.

WILSON, J. C., says that the best modern American authorities agree in advising the continuous use of external heat, to anticipate and counteract the early depression which is so grave

an element of the disease. He disapproves of the use of mercury, and doubts the efficacy of quinine in aborting the disease. **Opium** is the one remedy on which his reliance is placed.

TROUSSEAU pronounces all treatment useless, and states that in the cases treated energetically, death supervened more quickly than in those where active treatment was omitted.

ROBERTS gives stimulants and uses external heat when there is much depression at the outset. He approves of ice, leeches, blisters and opium. He evidently looks with favor on the use of stimulants.

The remarks of LOOMIS on general regimen are of value. He puts the patient in a dark, cool, well-ventilated room, removed from noise and confusion. The diet should be nutritious, and easily digested; milk is to be preferred. The tormenting thirst requires seltzer or ice at the patient's desire. Constipation calls for a calomel purge, aided by a turpentine enema; free catharsis must be early obtained. The bladder requires attention throughout.

Opium, hypodermically, is superior to all other remedies, if given early in full doses, keeping the patient in a semi-comatose state till the stage of effusion is reached; after that it is continued in small doses. The indication for stimulants is the same as in typhoid; weakness of the first cardiac sound.

DAVIS urges that the tolerance of opium shown in this disease proves neither the indication for the drug nor its harmlessness; but rather shows the need of something better calculated to arouse the general susceptibility and the vaso-motor activity.

The leading indication is to obtain abatement of the morbid action and vascular fulness in the nervous centers, thereby relieving pain, relaxing muscular rigidity, and preventing fatal paralysis. For this the most reliable agents are ergot, physostigma, and belladonna.

When called at or soon after the beginning of an attack, he directed ice or cold water to be applied to the occiput, giving internally:

R Tinct. physostigmatis,.....f℥ jss
Ext. ergotæ fl.,.....f℥ ijss

M. S.—f℥ j, every two or three hours to an adult.

Whenever the rigidity of the neck and the headache abate, the dose is given less frequently. If, as convalescence approaches, the patient is restless, delirious or sleepless at night, a single ordinary dose of Dover's powder and camphor is given at bedtime. When convalescence is fairly established, the ergot mixture must be at once laid aside. When, after the crisis has passed, daily exacerbations occur at the same hour, two or three moderate doses of quinine prevent them.

Dr. Davis very justly remarks that while the above treatment saved five out of six cases in the epidemic he treated, it does not follow that it would answer in other cases. Cases of an active inflammatory type would call for **venesection**; with an attending epidemic of erysipelas, the remedies would be hot applications, belladonna, iron, blisters, cantharides, hyposulphite of soda, etc. In attacks complicated with malaria he would use quinine.

Opium, he found to be positively injurious in the active stage, but in the stage of decline it was found useful.

RAMSEY, D. C., advocates the use of salicylic acid in large and frequent doses. Fifteen grains may be given every two hours, and increased until the desired effect is obtained.

SMITH, J. L., relies upon **bromide of potash**. Many authors recommend this drug for children, but for adults it has not been found effectual.

FULLER, W., recommends hot water instead of cold.

BARTHOLOW speaks approvingly of the administration of aconite and gelsemium, but other authorities do not sustain his favorable recommendation.

It is simply impossible to reconcile this discordant melange. Authors of the highest standing recommend diametrically opposite methods. The suggestions of one are found worthless by the next. The one fact which stands out most clearly manifested, is the universal uselessness of the medication adopted. Opium comes nearer than anything else to winning the approbation of all; probably from its power of relieving the outward manifestations of the disease; yet Davis' objections to its use seem to be founded on sound reasoning. His experience might be considered an exception to

the above statement, as he lost only one case out of six, but the one epidemic on which his observations were based was of unusual mildness. His remedies may be styled the physiological ones, and in the absence of any etiological indication, may be taken as the most rational yet suggested. In fact, of all the views presented in this article, those of Dr. Davis deserve particular attention.

CHANGE OF LIFE.

CLEMENT GODSON directs attention to the secretions. Constipation and portal congestion call for **saline purgatives**, or mercurial pill with aloes.

Headache and reflex nervous phenomena are best combated by **bromide of potash**; this drug acting as a sedative to the sexual organs, and lessening their blood supply.

Occasional **venesection** or cupping gives great relief. The diet should be plain and unstimulating, the use of alcohol being limited. Tepid baths are useful. Late hours, heated rooms and other excitement should be prohibited. Local troubles arising should receive their usual treatment. Abstracting blood from the uterus is injurious, but leeches to the anus are sometimes useful.

BARNES recommends an abdominal bandage when the abdomen is distended with gas. Acetate of ammonia is one of the best alteratives.

SUSSDORF gives this excellent rule: In no case of general or local disorder, just before or during the menopause, should local examination be omitted.

FONSSAGRIVES states that the indications are as follows:

1. To combat general and local plethora; best by bleeding from the foot, or if the uterus is much congested, from the arm. The life should be active, the diet restricted, the sleep light.

2. To combat menorrhagia:

R Ergotinæ,

Ext. matico,āā gr. xv

M. Ft. mas. et in pil. no. x divide.

S.—One every one or two hours.

Cold baths during the intermenstrual periods are often of service; also cold vaginal douches.

3. To combat nervous complications. These must be treated as they would be if they occurred at other times. Alcohol, spices and venery are hurtful. After the menopause, sexual connection should cease, as it induces congestion of the uterus, which, useless then, can only do harm.

FORDYCE BARKER, in cases of menorrhagia with increase in the size and weight of the womb, uses **ergotine** suppositories, or **iodoform** uterine pencils.

BARTLETT controls climacteric hemorrhage by introducing carbolized sponge tents into the cavity of the uterus.

JOHNSON, W. B., praises the *urtica ureus* as an efficient hemostatic. FONSSAGRIVES joins in the recommendation.

LAWSON TAIT says that for the relief of most of the subjective phenomena peculiar to this epoch, an occasional **drastic purgative** is his best remedy; together with removal from home at frequent intervals.

QUISAC recommends the establishment of a seton or issue on the arm, especially if carcinoma threaten.

LAWSON TAIT says that women who become addicted to drink at this epoch, should be secluded until the time of trial is past. Many patients who suffer from such depression will be found to have some insane delusion.

TILT thinks that flooding at this time is one of Nature's methods for resetting the health upon new lines, and should not be interfered with unless excessive.

PUTZEL recommends for the neuroses of this description **bromide of potash**, gr. xxx, thrice daily. Whenever the melancholic tendency is present, he uses inhalations of **nitrite of amyl**, increased as the patient becomes habituated to its use.

WARING states that headaches of this period are benefited by **sulphur**. Plethora and nervous excitement are allayed by—

R Sulphuris,.....℥ j
 Sodæ carb.,.....℥ j
 Ipecacuan.,.....gr. x

M. S.—℥ j to ℥ ij, to be taken at night in milk.

In melancholic cases **cimicifuga** will sometimes act like a charm. If the patient be fat and plethoric, Carlsbad water or salts will give instant relief. In other cases, characterized by various anomalous nervous manifestations, the impression made upon the mind by massage, hydrotherapy, or faradisation is frequently useful. The most exact and careful management must be kept up in all cases of this kind. Every source of irritation should be avoided. Members of the family should be warned not to pay attention to the nervous manifestations, nor to provoke them. Freedom from anxiety, travel, change of climate and agreeable society should be enjoined; while the functions of the liver and kidneys must be kept in proper condition.

CHILBLAIN.

ERASMUS WILSON endeavors to restore circulation by gentle friction with snow if the part is severely chilled; he then uses some soothing liniment, and finally a stimulating liniment; covering the parts afterward with zinc ointment and cotton wool. He favors the soap liniment with chloroform, the compound camphor liniment, turpentine liniment and iodine. Blisters should be opened and pencilled with tinct. benzoin. comp., and then dressed with resin ointment. For general debility, a generous diet, with iron and quinine, are essential.

PIFFARD uses the galvanic current to raise or restore vitality.

SHOEMAKER recommends the ointment of **aluminium oleate**.

We have for many years used with the best results an ointment of carbolic acid, containing thirty grains to the ounce.

It may be well to caution those who use snow to rub frozen members, that the snow must be *wet*, as dry, frozen snow will increase the congelation.

CHLOROSIS.

Instances of the peculiar greenish tint which gives the name to chlorosis are very rare in America, but the disease itself is anything but rare, and affects numbers of our women throughout their lives. We must express our conviction that the vast majority of the cases of ill health, nervousness, chronic invalidism, etc., among women, depends on the condition of their blood. Women who are never well are chlorotics. Neuralgic women, dyspeptic women, women with disorders of the sexual organs, are cases of chlorosis primarily, neglected at first, intensified and rendered permanent by pregnancy lactation, lack of change, exercise, etc., and the burden of the daily duties of their lives. The study of special organs has of late years thrown the consideration of the general system into the back-ground. The pendulum has swung too far, and should now swing back.

For these reasons we have separated the treatment of chlorosis from that of anemia, and will devote sufficient space to it to present fully the views of various authors on this important subject.

IMMERMANN calls attention to the importance of strengthening the constitution during childhood and at puberty; especially when there is any hereditary predisposition to chlorosis. **Meat** should be given in abundance. Women of a relaxed type should be compelled to take open air exercise daily; they should do domestic work rather than sedentary tasks. **Sleep** must be enjoined early in the night. Social excesses do great harm. The hot months should be spent at the sea-shore or mountains, where exercise may be taken without undue prostration from the heart. **Sea** bathing exerts an influence hostile to chlorosis. The demands of "culture" should never be allowed to interfere with health. Causes of moral and mental depression should be removed if possible.

Very rarely does amenorrhœa constitute an indication for treatment, as that disorder is but the consequence of the chlorosis. In girls of eighteen a combination of **aloes** and **iron** in pill is sometimes useful. The bold and free use of **iron** in chlorosis is more important than all the hygienic management. In many cases a preparatory course is absolutely necessary before the iron

can be administered. Dyspepsia or fever must be gotten rid of; hypalbuminosis must be obviated. Immermann agrees with Niemeyer in the opinion that when the disease is uncomplicated, elaborate directions are superfluous—she can do as she pleases, so long as she takes iron. Hygienic management, however, is necessary to prevent a relapse. Large doses of iron cure more quickly than small ones. The dose is more important than the preparation. It is well to choose those compounds which do not interfere with digestion. At Bâsle, Blaud's pills are used:

R Ferri sulph. pulv.,.....
 Potas. carb. pur.,..... āā ⅔ ss
 Tragacanth., q. s.

M. Ft. mas. et in pil. no. xvi div. S.—Three pills thrice daily.

The attempt to claim for manganese a place beside iron, by establishing a "manganese chlorosis," he characterizes as "antiquated rubbish," and says the experiment has completely failed. Iron is contraindicated by gastric catarrh, which must first be removed. Atonic dyspepsia is benefited by iron, but gastric ulcer does not tolerate it even as well as does catarrh. Cardialgia is readily cured by chalybeates. Fever also contraindicates iron. Marked nervous symptoms require the addition of the **bromides**.

Chorea calls for **arsenic**.

Constipation may be obviated by mild salines, like **Hunyadi water**.

NIEMEYER agrees with Immermann in attributing little value to anything but **iron** in the treatment of this disease. His conclusions are as follows:

1. The efficacy of iron in chlorosis does not depend on the form in which it is administered.
2. Nearly all ferruginous preparations are well borne in chlorosis.
3. Special indications for the exhibition of one or the other cannot be laid down.

We believe it is a mistake to stop to relieve gastric disturbances, erethism and other troubles due to anemia, before administering iron.

To prevent relapses the chalybeate waters are recommended.

CHOLERA: ASIATICA.

LEBERT, admitting that the good effects of quarantine are limited, still insists on obtaining whatever benefit is possible from that precaution. Medical officers should be stationed at the frontiers, and at the centers of travel. Every case of diarrhoea, however slight, in new comers from suspicious places, must be treated.

People should be taught that cholera can be prevented in this way; and that physicians, remedies and transportation are at public service at these places. Early and thorough disinfection at these places reduces the danger to the minimum.

Travelers and other strangers affected with the disease should be isolated at once. Quarantine buildings should be well ventilated and disinfected; and the same directions should be enforced at all suspected railway stations along the line from infected places. The threatened place should be disinfected in the most thorough manner. Cholera hospitals should be erected in good season, and proper vaults constructed for the disposal of the evacuations. The best results are obtained when the most thorough hygienic regimen is instituted before the epidemic begins.

Druggists should be forbidden to sell emetics or cathartics without a prescription. Special instruction should be given to all on the paramount importance of the preliminary diarrhoea, and its early treatment, as well as the danger existing in the stools from all such cases. Bureaus should be organized to give relief to the poor at all hours. House to house visits for instruction and to detect early all cases of diarrhoea are vastly useful.

The discharges must be quickly removed, mixed with carbolic acid and buried, or better, with saw dust and burned. (Koch found that cholera bacteria are killed by a few minutes immersion in a five per cent. solution of carbolic acid.)

If a cholera center develop, the inhabitants must be removed to a place of refuge. If several cases occur in a house, the wells and privies must be closed up, the dejecta emptied into buckets, disinfected, and carried away daily.

The linen must be disinfected before washing, by exposure to dry heat or to the fumes of sulphurous acid; after which it should be boiled in water before going to the laundresses.

Dead-houses should be provided and funerals regulated by the authorities.

Carbolic acid is the best antiseptic and antimycetic agent of all the well-known and thoroughly tested means. The pure, unmixed acid is the best. For privies, eight ounces of acid dissolved in a gallon of water should be poured in once a day. For water-closets, three to six ounces daily will suffice; for large night-receptacles, an ounce and a half a day, and for ordinary chamber pots, during the stage of attack, a drachm may be poured in from time to time. The floor should be sprinkled daily with a two per cent solution.

The wash-clothes may be sprinkled with the same solution before being boiled. The clothes may be put in an ordinary oven and the heat raised to 212° F., when of such a nature as not to bear boiling. This dry heat is also to be used for mattresses, garments, etc. Straw beds should be burnt; and this is also the best way to treat excreta.

Sulphurous acid, in two per cent. solution is efficient in destroying protomycetes. This solution remains for weeks unaltered. It is the cheapest disinfectant. Several pints of this fluid may be used daily in privy wells, and smaller amounts for other purposes. Clothes and bedding may be disinfected by burning sulphur in a closed room, after sprinkling with this solution. Copperas, permanganates and chloride of lime are not recommended.

Boiling destroys the germs in water. Individually, the most careful regulation of hygiene comes into play; avoidance of colds, indigestion, errors in diet, excesses, and mental disquiet, should be enjoined. Moderation in all things should be inculcated, and the ordinary routine of life should not be interfered with unnecessarily. Vegetables which induce diarrhœa should be used with caution. Unripe or decaying vegetables must be shunned. Feeble persons must be fed up, given wine, etc., and kept warm. Useless visits to the sick or attendance on funerals should be forbidden.

Every diarrhœa, however slight, must be treated at once. All who are very fearful of the disease should leave the infected locality early.

While rest, caution in diet, small meals of light animal food, red wine, and flannel abdominal bandages are all useful, **opium** is the one real remedy in cholera diarrhœa, especially in the worse forms. All sorts of combinations may be made so that they contain opium.

R Argenti nitrat.,.....gr. ix
Solve in aquæ dest. q. s. et adde:
Ext. opii,.....gr. ivss
Pulv. althææ,.....gr. xxij
Ext. gentianæ, q. s.

M. Ft. mas. et in pil. xxx dividenda.

S.—One pill three times a day in light cases, two pills in severe cases.

If the stools occur in rapid succession, he gives two or three pills every hour until the diarrhœa yields. After it ceases, a pill is to be taken every evening for some days. In more obstinate cases he gives one-third grain of opium with three grains of tannin or eight of bismuth; and assists these remedies with enemas of one and a half to three grains of **nitrate of silver** and ten to fifteen drops of laudanum in three ounces of water. If this be quickly passed a second is given shortly; in urgent cases two enemas are given in a day. In case great danger threatens, he gives fifteen to twenty drops of laudanum at once. In cases of great nervous distress and anxiety he uses equal parts of the tinctures of opium and of camphor, in doses of six to ten drops. For the pains and colic he gives warm chamomile tea (*matricaria*), and puts the patient to bed, with hot poultices or cold compresses to the abdomen. If the diarrhœa return, the patient should change his location. In such cases, if opium fails, mild **laxatives** have succeeded, but such cases are exceptional. When nausea, vomiting, or bitter taste exists from the first, they are met with effervescing powders, ice, ærated drinks, and if these fail, an emetic of fifteen to twenty grains of **ipecac.**

In well-marked cholera the foregoing remedies are useless. Keep the patient composed, give small pellets of ice every three minutes, and mouthfuls of very cold soda water, or small soda powders in a little ice water. Soda lemonade is very useful.

Hypodermics of morphine, gr. $\frac{1}{8}$ to $\frac{1}{4}$, allay the pains and cramps of the second half of the attack. Internal medicines are useless, and enemas will not be retained. Frictions with pure

chloroform or counter-irritants are useful. When the stools become less frequent, enemata of laudanum, twenty drops, and eight or ten drops of the strong solution of chloride of iron (Br. Ph.), or four grains of nitrate of silver may be given. If diarrhœa be still present at the end of the attack, five to eight drops of laudanum may be repeatedly given.

Hygienic management must be secured throughout the attack. Precordial anxiety is best relieved by compresses over the abdomen; later, by mustard, etc.

Venous injections are useless and dangerous. Stimulants at this stage have been abused. We cannot force reaction if the strength is unequal to it. If the temperature fall, frictions of the extremities should be instituted, with flannels and stimulating liniments; and hydropathic wraps, warm jugs to the hands and feet, warm aromatic drinks, and ammonia, may be used.

R Ol. anis.,.....f3 j
 Alcohol,.....f3 iij
 Solve et adde,
 Aq. ammoniæ,.....f3 v

M. S.—Ten to fifteen drops to be added to every cup of tea.

In very grave and rapidly sinking cases, a teaspoonful or so of old fiery wine, Burgundy, Tokay or Rhenish, should be given every half hour, with thirty drops of the ammoniated tincture of musk.

Fullness and pain in the head calls for cold compresses to the head and mustard to the legs.

Stomach symptoms in this stage demand the same remedies as in the first.

The greatest caution is to be observed in giving food. A spoonful of good beef soup every three hours, and when reaction follows, tea or coffee with equal parts of milk, may be given. Only animal food should be given, simply prepared, and not even that till the tongue is clean and intestinal catarrh ceases. In the typhoid stage our chief duty is to regulate digestion. Ice and aerated waters are needed for gastric distress, followed by the bitters, with rhubarb. Constipation requires rhubarb, and perhaps aloes. For abdominal pains we give enemata of ether, f 3 ij, in four ounces of water. Warm aromatic herb-baths are useful.

The diet may be enriched only when the digestive organs have become perfectly normal.

BROWN-SEQUARD states that hypodermics of **morphine** at the outset will prevent cholera.

LOOMIS recommends iced **brandy** or **champagne**, given repeatedly in small doses, as the best stimulants in collapse. Inhalations of **amyl** have also been found efficient in the advanced stages. If death threaten, **whiskey** may be injected hypodermically, or milk be introduced into the veins. Cerebral symptoms are treated by applying ice to the head and administering bromides.

DAVIS says that the first object to be accomplished by treatment is to restore the tonicity of the tissues, increase the vasomotor influence, and lessen the mucous irritability in the early stages. Failing in this, the object is to limit the loss of serum, prevent thickening of the blood, and maintain secretion and elimination in activity. Later, the most pressing need is to dilute the thickened blood, and maintain the action of the nervous centers of organic life. Finally, in the stage of reaction we must combat the inflammation and sustain nutrition.

For the preliminary diarrhœa he gives:

R	Acid. sulph. aromat.,.....	f 3	iv
	Magnesiae sulph.,.....	f 3	iv
	Tinct. opii,.....	f 3	iv
	Elix. simp.,.....	f 3	j
	Aqua,.....	f 3	ij

M. S.—f 3 j, in a little water every three to six hours.

The dose is repeated every three hours, until the passages have been prevented for twenty-four hours, and then increase the interval until they occur once daily, of natural color and consistence.

If malaria be present, or the stools light colored, he adds to the above two grains of **quinine** and one of **calomel**, twice daily.

When active symptoms begin, he applies mustard over the stomach and spine, keeps the patient lying down, with dry

warmth to the extremities, and gives every half-hour $\frac{1}{30}$ gr. strychnine and ten minims of oil of turpentine, in emulsion. After each act of vomiting he gives morphine, gr. $\frac{1}{4}$, and calomel, gr. j, with a pellet of ice instead of any drink. He lays great stress upon giving this immediately after the vomiting; as if the patient be allowed to "rest a little" before taking the dose, the stomach will have regained some of its contractility, and some effused serum will have accumulated. At the same time he gives by the rectum ten grains of acetate of lead, and half a grain of acetate of morphine, dissolved in two ounces of water. In the epidemic of 1866, he used this mixture in many cases instead of the calomel and morphine powder:

R. Acid. carbolicæ,.....gr. iij
 Glycerinæ,.....f 3 ijss
 Tinct. opii camph.,.....f 3 j
 Aq. cinnam.,.....f 3 jss

M. S.—f 3 j, after each vomiting.

In the early stages the patients are to be kept constantly in the recumbent position, the thirst relieved by pellets of ice, held in the mouth until smooth and then swallowed.

If the surface becomes shrunken, feet bluish, pulse feeble, and sweating copious, it is better to give at once a hypodermic of morphine, gr. $\frac{1}{8}$, and atropine, gr. $\frac{1}{60}$; and every fifteen minutes a tablespoonful of strong coffee or tea, alternated with the same quantity of well-salted broth.

If the hypodermic be insufficient, it may be repeated in half an hour to an hour. Dry warmth to the surface and extremities, with the horizontal posture, must be maintained throughout this stage. Wet applications reduce the heat and do harm thereby.

Frictions do more harm than good. Cramped muscles may be held in a firm grasp till they relax. Advantage has been derived from applying several times to the whole surface dilute mercurial ointment, with a liberal addition of powdered camphor and capsicum. If collapse ensue, the small chance of recovery is best promoted by rest in bed and the continued use of tea, coffee, and salt broth, as above. When reaction sets in, the treatment is the same as in the second stage of typhoid fever, which see.

The free use of alcohol and heroic dosage are only productive of harm.

FOTHERGILL mentions approvingly the suggestion of Dr. HALL, who, basing his practice on the spasm of the arterioles, which cuts off the blood from the Malpighian corpuscles and stops the secretion of urine, gives hypodermics of **chloral**, with satisfactory results.

NIEMEYER calls attention to the fact, that, in the Mecklenburg epidemic of 1859, the quarantine, which had been previously declared useless, was found to afford full protection when energetically and perseveringly followed out. Among his hygienic rules is this very sensible one: never use a strange privy in cholera times.

As soon as persons are attacked by diarrhœa they should go to bed, send for a physician, and drink a few cups of hot coffee or peppermint tea, and take some "cholera drops." It cannot be denied that energetic diaphoresis occasionally averts an attack. This sweating must not be arrested too soon, and the patient must not be allowed to leave his bed until he has passed a formed stool. The Russian cholera drops have obtained some celebrity:

R	Tinct. valerian. æth.,.....	f3 ij
	Vin. ipecacuan.,.....	f3 j
	Tinct. opii,.....	ʒ xx
	Ol. menth. pip.,.....	gtt. v

M. S.—Twenty-five drops every hour or two.

Near the end of an epidemic, when the fatality becomes less, the "specifics" win a reputation which they are certain to lose during the first weeks of the next visitation.

For cholera diarrhea he gives **Dover's powder**, five grains, repeated often till a formed stool is passed.

If the patient grows worse, opium is contra-indicated; and then he recommends **cold compresses** to the abdomen, and **calomel**, a grain every hour. The loss of fluid is obviated best by giving small pieces of ice, or a little ice water, at short intervals.

Collapse calls for **stimulants**; the best of all being iced champagne, or rum. Sometimes it is well to alternate with hot coffee.

Frictions relieve the cramps of the muscles. Sinapisms are

useless at the time, and cause painful sores later. Solid food should not be allowed till pulpy stools appear.

ROBERTS recommends **opium** with acetate of lead, tannic, gallic or dilute sulphuric acid.

BARTHOLOW strongly recommends for the cramps—

R Chloral hydrat.,.....3 ij
Morphinæ sulph.,.....gr. iv
Aquæ lauro-cerasi,.....fʒ j

M. S.—Fifteen to thirty minims to be injected hypodermically.

For collapse, HUGHES recommends heat to the surface and the free use of **stimulants** hypodermically, with hot or cold baths, and the intravenous injection of saline solutions.

R. G. JACK relies mainly on **morphine**, and **Fowler's solution** in doses of five drops every fifteen minutes until some effect is produced. He also raises a blister over the stomach with nitrate of silver.

S. T. CHANDLER speaks very warmly of the value of **sulphuric acid**, in full doses, repeated every quarter to half hour, until the vomiting and purging cease.

ELY McCLELLAN strongly urges the use of **sulphate of iron** and **sulphuric acid** as prophylactics. He states that the mortality among patients treated with acids was only eight per cent., while the lowest rate when other remedies were used was twenty-three per cent., and the highest fifty-nine per cent.

W. STEVENS gave a seidlitz powder at the start, and the following when the algid stage supervened—

R Sodii chlorid.,.....3 ij
Sodii carbonat.,3 ij
Potassæ chlorat.,.....Ḑ ij
Aquæ,.....fʒ vj

M. S.—fʒ j in water every half hour.

W. SEDGWICK thought that **phosphoric acid** checked the disease more certainly than sulphuric acid.

G. JOHNSON recommended castor oil at the beginning. We only mention this treatment to warn the reader against it. A full trial was given to it in India, and the deadly results induced the physicians there to lay down the rule, **never to give laxatives in any case of choleraic diarrhœa**. Unfortunately, this dangerous mode of treating cholera, founded on theory and damned by trial, is continually being brought forward; especially since the discovery of the comma bacillus has given its supporters another fallacious theory for its employment—that of clearing the germs out of the bowels by purgation.

J. MURRAY, of the Indian Medical Service recommends as a laxative—

R Pulv. opii,.....gr. j
 Piperis,.....gr. ij
 Asafetidæ,.....gr. iij

M. S.—At one dose, in pill.

There cannot be much purgative action in this, and it would be safer than castor oil, if circumstances should render aperient medication necessary. **Camphor** is sometimes added.

SQUIBB's diarrhea mixture is a useful household remedy for cholera seasons:

R Tinct. opii depurat.,.....
 Tinct. camphoræ,.....
 Tinct. capsici,.....ââ.....f℥ j
 Chloroform. purif.,.....f℥ iij
 Alcohol, 95 per cent., q. s. ad.....f℥ v

M. S.—Adult dose, a teaspoonful.

For the preliminary diarrhea, DA COSTA recommends sulphuric acid, opium, and acetate of lead. If the discharges are not controlled by these remedies he gives:

R Tinct. capsici,.....gtt. ij
 Tinct. opii,.....gtt. x
 Aquæ camphoræ,.....f℥ j

M. S.—Take every two or three hours.

If the stomach does not tolerate opium, give morphine hypodermically.

When true cholera develops, with cramps, vomiting and

purging, restrict the use of drinks, and give pellets of ice with small doses of stimulants.

Keep the patient at rest.

Use frictions for the cramps; if not relieved, give twenty grains of chloral hypodermically over the abdomen, and apply a mustard plaster. These means will arrest the cramps and vomiting.

When reaction begins, be sure to look to the kidneys. If vomiting have ceased, allow fluids in large quantities. Act upon the skin with diaphoretics.

If reaction be not taking place satisfactorily, give five to ten grains of calomel, and follow with half a grain every hour.

If collapse be impending, persist with frictions, hot fomentations, mustard, turpentine, whiskey, etc.

If the patient be not too weak, a hot bath will be very beneficial. The use of hot applications is our best treatment. Give stimulants as long as they will be retained in this stage. They should also be given hypodermically. Caffein, in doses of one grain and a half, has been used with benefit as a cardiac stimulant. If the patient continue to sink, and the blood become very thick, intravenous injections of fluids may be of benefit.

R	Sodii chlor.,.....	3 j
	Sodii carb.,.....	3 ij
	Aquæ,.....	O vj

M.—Heat to 108°. Inject two fluid ounces at once into a vein, and repeat until forty ounces have been injected.

BARTHOLOW adds his testimony to that of his many predecessors who have urged the use of opium and sulphuric acid in the preliminary diarrhea. He states that the subcutaneous injection of morphine is the most efficient treatment of the preliminary disturbance, and of the first stage of the attack proper.

The utmost quiet must be enjoined. The food should consist of boiled milk, a soft boiled egg, beef or mutton broth, or a little steak or roast beef. If the symptoms be threatening, the aliment should not include any solids. Ice should be given ad libitum.

Effervescing powders relieve vomiting. They should contain an excess of acid as remedies for vomiting. This author mentions mustard to the epigastrium, morphine injections, flying

blisters, carbolic acid, chlorodyne, hydrocyanic acid, camphor, chloroform, nitrite of amyl, etc.

Of all remedies for this stage he has had the best results from the hypodermic injection of chloral, in doses of twenty grains every hour or two, in water. It acts best when given with morphine or alternated with it.

In the algid stage, good has resulted from the injection of atropia, to excite the heart's action and restore warmth. Inhalations of amyl nitrite have been used for the same purpose, with asserted benefit. Hypodermics of whiskey, and the intravenous injection of milk or of saline solutions has proved successful in promoting reaction, even in desperate cases.

During reaction the stomach must be handled with care. The digestive powers are so feeble that nothing can be given but a little milk or weak broth. For the troublesome vomiting and diarrhea he gives—

R Acidi carbolici,.....gr. viij'
 Bismuth. subnit.,.....3 ij
 Mucil. acaciæ.
 Aquæ lauro-cerasi,.....ââ f 3 j

M. S.—A teaspoonful every hour or two.

For fever and headache, bromide of potash will give relief. Efforts should be made to restore the urinary secretion.

The dose of cherry laurel water in the above formula is too large. In fact, the drug had better be left out altogether, cardiac sedation not being indicated.

The recent epidemic in Italy has given us one addition to our therapeutic resources, in the practice of injecting solutions of tannic acid high up in the bowels by means of a flexible tube. The favorable reports of this method have since been questioned; late observers alleging that the mortality is not less than where other modes of treatment were followed. The fact that the comma bacilli are instantly killed by any acid would indicate the value of this class of remedies. As the symptoms produced by the disease are the same as those which follow section of the vaso-motor nerves, the physiological remedy is a stimulant to this nerve, *i. e.*, nux vomica or its alkaloids, or ergot.

There is a popular expression in India, to the effect that if at

the beginning of the disease a dose can be administered which will bring the tears to the eyes, the attack will be averted. For this purpose mixtures are prepared resembling the following:

R	Tinct. capsici,.....	f $\frac{3}{4}$ j
	Ol. cajuputi,.....	f 3 iv
	Camphoræ,.....	3 ij
	Chloroformi,.....	f 3 ij
	Aetheris fort.,.....	f $\frac{3}{4}$ j

M. S.—A teaspoonful without water every fifteen minutes until the reaction sets in.

We have frequently given this in cholera morbus, and can answer for its utility in that disease.

MACNAMARA gives inhalations of ether for severe cramps, in preference to injections of chloral.

CHOLERA MORBUS.

It must not be forgotten that in this country cholera morbus is not a very fatal disease; hence many systems of treatment have proved successful. Dr. W. S. Jamney, Coroner of Philadelphia, has stated that in a man of reasonably good health, not too old, cholera morbus is never fatal; the deaths attributed to it being really due to arsenical poisoning.

The prescription given in the preceding article will be found very effectual in many cases, if given at the outset. We have prescribed it in the morning to a man who was writhing in agony, with continual vomiting and purging, and found him at work in a rolling mill in the afternoon. The dose should be given immediately after an attack of vomiting, as recommended in the article on Asiatic cholera.

Another prompt and effectual method of relieving the distressing symptoms is the hypodermic injection of a full dose of **morphine**, one-fourth or one-half a grain. If the syringe be not at hand, nearly as good results may be obtained by giving the drug in hot water. The internal use of **chloroform**, five drops, in a little water, every five minutes, is often effectual. As adjuvants to these remedies, we may apply mustard to the epigastrium and the calves, rub the body with turpentine and lard (one part

to ten), wrap the patient in warm flannels, give hot mustard foot-baths, and put hot water-bottles, bricks, or sand-bags to the extremities.

When the attack has resulted from the use of improper food, a dose of **castor oil** will remove the offending substance, and give prompt relief. But this is not essential, as the symptoms may disappear some time before the noxious matter is voided. **Calomel**, in doses of gr. $\frac{1}{10}$, with *testa preparata* gr. j, every half hour, will frequently quiet the vomiting and relieve the cramps, although there may be decomposed substances still in the intestinal canal. Nevertheless it is wise to get rid of such matters as soon as possible.

LEUBE says that no remedy is as effectual as **opium**, in the dose of a third of a grain, repeated hourly. If the extremities become icy cold, he uses warm fomentations or hot baths. In case of extreme depression he gives hypodermic injections of **ether**, $\mathfrak{m}$ xv, repeated four times a day; or camphor, one to five grains, musk, four to eight grains, or strong wines.

The diet should consist of soup alone, and great care should be exercised in gradually restoring the patient to his ordinary food.

This is especially the case when symptoms of gastric inflammation arise in the period of reaction. Here, the food should consist of beef essences, pepsinized milk, boiled rice, the white of raw eggs beaten up with milk, etc., until the return of appetite and the disappearance of the coating from the tongue warrant us in restoring our patient to full diet. The prescription of rhubarb, ipecac., and carbonate of soda, for gastric catarrh, given in the article on alcoholism, will be found useful in this condition. It is of the utmost importance in such cases that food of the most highly nutritious variety be given, in the most easily digested form, in small quantities and at short intervals. Free use should be made of artificial digestants; a scruple to a drachm of pepsin being added to each meal of albuminous food. **Bismuth** is often invaluable in this stage, allaying the morbid irritability of the stomach without interfering with digestion. We usually order an ounce, and direct our patient to take a large pinch whenever he feels any nausea or distress in the epigastrium.

Another useful remedy for the same condition is **oxalate of cerium**. This use of the drug is new to us, but from recent trials we are disposed to credit it with powers at least equal to those of bismuth.

R Cerii oxalat., gr. xxx
 Sacch. lactis pulv., 3 ij
 M. et in chart. no. xv, divide.
 S.—One every three hours.

It must not be forgotten that the hot mixture recommended in the beginning of this article is only to be used in the first stage. After reaction has set in, and the symptoms are those of inflammation, it will do harm.

LOOMIS gives one-half grain of calomel every hour for six hours, when there is hepatic tenderness, and small doses of the mineral acids after the vomiting has been relieved.

HARTSHORNE bases his therapeutics on the gastric, hepatic and intestinal irritation with increase of the secretions of the stomach, liver, and bowels; also spasmodic action of the stomach, and exaggerated peristalsis. In accordance with these conditions he gives:

R Sp. ammon. aromat., f 3 j
 Magnes. optim., 3 j
 Aquæ menth. pip., f 3 iv
 M. S.—Shake well. A teaspoonful to be taken every twenty minutes.

If the case be seen later, when the diarrhea is already copious, sodium bicarbonate may be substituted for the magnesia, and a tablespoonful of paregoric added to the mixture. Still later, he administers gastric stimulants, ginger, cinnamon or cloves. Obstinate diarrhea may demand an enema of laudanum and starch.

BARTHOLOW recommends hypodermics of morphine, gr. $\frac{1}{8}$ to $\frac{1}{4}$, and atropine, gr. $\frac{1}{120}$.

In cases of the cholera type he uses injections of morphine and chloral. The medicines most easily borne and most efficient are combinations of the mineral acids and opium. He gives two to five drops of dilute muriatic or sulphuric acid with an equal amount of laudanum, in camphor water, every half hour to two hours. Carbolic acid alone or with bismuth is an efficient remedy for vomiting, from its properties as an anti-ferment and a local

anesthetic. Another effectual combination is equal parts of carbolic acid and tincture of iodine—one drop every half hour. He also speaks favorably of chlorodyne. Perhaps one reason why this author commends the hypodermic method so highly (in which we agree with him as regards this disease), is that the above formulas are so exceedingly nauseous. Still, patients will sometimes be found who will take the mixture of iodine and carbolic acid, and even retain it.

MACNAMARA gives for severe vomiting a scruple of calomel, or an effervescing mixture with hydrocyanic acid. If the diarrhoea be excessive, he gives—

R Creasoti,.....gtt. **xx**
 Argenti nitrat.,.....gr. **v**
 Camphoræ,.....gr. **xx**
 Pulv. ipecac. comp.,.....gr. **xl**

M. ft. mas. et in pil. no. **xx** div.

S.—One after each loose motion.

CHOLERA INFANTUM.

We have often recalled the naïvete of the expression in Meigs' and Pepper's work on "Diseases of Children," where the authors wind up their treatment of this disease by giving an Indian prescription containing "Haller's Acid," and remark that they have not as yet given it a trial, but "intend to next year." Those few words speak volumes of the inefficiency of the ordinary treatment, and the unwillingness of the earnest practitioner to trust himself with untried remedies in the face of this terrible disease. We have known dozens of physicians who were going to "try" Haller's acid next year, at the close of the summer; but the next season opening with a case in which they were deeply interested, they go back to the old remedies.

The following scheme for the treatment of cholera infantum was published in *The Medical World*, in August, 1886. We have but little to add to it, except these hints:

It is impossible to treat cholera infantum upon any formal method. The incessant vomiting characterizing one case, the profuse diarrhea in another, the hyperpyrexia in a third, demand

different remedies. So do a dozen other conditions; and an attentive study of each case is necessary before deciding upon the method of treatment to be adopted. In addition to this, it is necessary in every case, to pay the same elaborate attention to the diet and the hygiene of the patient, which Lawson Tait gives to his cases of ovariectomy.

The discovery of tyrotoxicon in milk leads us to question the propriety of allowing that substance to be used as food; and certainly it should lead us to use the utmost care in its preservation and administration, if it be not forbidden altogether. The desirability of the substitution of beef peptonoids, or digested *cooked* beef, for raw beef, is also a serious question. Hot soups, thickened with the beef from which beef-tea has been made, and which has then been dried and powdered, should take the place of articles of doubtful value.

I. *For preliminary diarrhea, with no fever.*

1. Guard against improper food.
2. See that the food has not had a chance to decompose.
3. See that its digestion is insured by adding to it pepsin, etc.
4. Allow no water to be drank which has not been previously boiled and filtered.
5. Use hot drinks freely, cold drinks sparingly.
6. Avoid the heat of the day by keeping the child in a cool, dark room.
7. Keep a thin flannel bandage over the abdomen day and night.
8. Nowhere are children so well as when taken upon the water.
9. Keep the stomach quiet (*a*) by allowing it periods of absolute rest, with no ingestion of food or drink; (*b*) by interdicting the constant swilling of liquids, which keeps up the irritation which causes thirst; and (*c*) by using frequent small doses of bismuth.
10. Frequent bathing or sponging the body with warm water relieves the thirst and keeps the body cool.
11. Don't be in a hurry to stop the diarrhoea.

12. Keep up the flow of healthy digestive fluids by giving small doses of rhubarb, ipecac. and potash; preferably in hot water.

13. Continue this until the stools assume a natural appearance and odor.

14. *No tonic in this condition compares in efficacy to quinine.*

15. If the diarrhea becomes so profuse as to require stronger measures, give—

R Ext. hæmatox. fl.,.....f℥ 3 j
 Acid. sulph. aromat.,.....f℥ ss
 Tinct. opii deodorat.,.....gtt. vj
 Syrupi, q. s. ad.....f℥ iij

M. S.—A teaspoonful after each passage, for a child a year old.

16. If this prove ineffectual, do not waste time trying other astringents, but give an injection of sulphate of zinc, five grains to the ounce of warm water.

17. Use the thermometer daily.

II. *For the severer grades of ileo-colitis*, where the temperature rises to 100° or 101°, to the above directions we add the following:

1. Limit the food to milk, white of egg and lean beef.

(a). The milk should be boiled fifteen minutes over a slow fire; then put in a bottle tightly corked, placed *under* the ice, and the portion used at one time warmed to 98° before giving it. It should be given every four hours, with a sufficient amount of *good* pepsin.

(b). The white of egg should be beaten to a froth, and given raw with pepsin. It may be added to the milk.

(c). The beef should be scraped from the cut surface with a sharp knife, and given raw, with pepsin. It may be warmed through, or even cooked, if the child will not take it raw.

2. Should either of these three foods disagree, use only the others.

3. If the force of the disease be directed upon the stomach, give the food by the rectum; if the bowels be mainly affected, give the nutriment by the mouth.

4. Sedulously guard against the child's tendency to constant drinking. Give small pellets of ice *not oftener* than once in 15

minutes; or a dessertspoonful of cool water every 30 minutes. A little *hot* water may be given occasionally, and will better relieve the thirst.

5. Thin poultices of flaxseed over the abdomen tend to allay the fever. They should be light, changed frequently, and covered with dry flannels. *Don't* use spice-bags.

6. Children may still be taken in the air or on the water, but if they have fever they must be protected from drafts; especially while asleep.

7. The remedies above mentioned are still to be used.

8. If the strength fail, in addition to quinine give coffee, brandy, or if great relaxation supervene, *nux vomica*.

9. The utmost care must be exercised in the use of morphine; which may be given in minute doses, *not to check diarrhea, but to relieve pain*.

10. Dysenteric symptoms may be met by using injections of hot water, and giving small doses of calomel (gr. $\frac{1}{20}$) and test prep. (gr. j), every 2 hours.

11. When the fever subsides, the following foods may be added to the diet-list in the order named: boiled rice, calves' foot jelly, malted barley, triturated and sifted before being cooked, chicken jelly, mutton broth with rice, tapioca, sago or arrow-root.

12. Malt-extract should be given with all starchy foods during convalescence.

13. The flannel bandage once applied, must not be left off until the sickly season is over.

III. Cholera Infantum.

1. Use the thermometer frequently.

2. Meet a temperature of 104° with a warm bath, cooled by adding cold water till the child's temperature has fallen below 100° . Repeat the bath as often as the temperature rises to 104° .

3. Beware of opium.

4. Watch the condition of the urine. If it become very scanty, or if albumen appear, give small doses of acetate of potassa.

5. Use quinine boldly ; giving one grain every four hours, in suppository to a child one year old.

6. Collapse calls for camphor and ammonia, rather than brandy.

7. Children with the cholera infantum must be kept in bed.

8. Keep steadily to one plan in the management of a case, meeting each indication which arises with appropriate remedies ; but don't shift about aimlessly from one astringent to another, trying this, that, and the other, till the child dies.

STARR recommends for ileo-colitis, or inflammatory diarrhea, the same diet given in cholera infantum. He recommends the treatment with a laxative, of castor oil with five drops of paregoric, or of spiced syrup of rhubarb. Afterwards, while the stools are yellow, homogeneous and not very frequent, alkalies and astringents are alone needed, as—

℞ Sodii bicarb.,.....gr. xvij
Bismuth subcarb.,.....gr. xxxvj
Pulv. aromat.,.....gr. vj

M. et in chart. no. xij div.

S.—One every two hours.

When the stools are green, numerous and acid :

℞ Pulv. ipecac. comp.,.....gr. ij
Bismuth subcarb.,.....gr. xxxvj

M. et in chart. no. xij div.

S.—One every two hours.

If there be too much pain and heat of skin :

℞ Magnes. sulphat.,.....℥ j
Tinct. opii deod.,.....ʒ vj
Syrupi,.....℥ j
Aq. menth. pip., q. s. ad.,.....f ʒ iij

M. S.—A teaspoonful every two hours.

When the stools are thin, with white or green flakes, and the above treatment fails, he gives the following for twelve to forty-eight hours.

℞ Pulv. ipecac. comp.,.....gr. ij
Hydrarg. chlor. mit.,.....gr. j
Cretæ prep.,.....gr. xxxvj

M. et in chart. no. xij div.

S.—One every two hours, or every four hours alternating with the opium and bismuth mixture.

Very frequent and serous stools demand more powerful astringents :

R Acid. sulph. arom.,.....℥ xxiv
 Liq. morphæ sulph.,.....f 3 j
 Elix. curaçœe,.....f 3 ij
 Aquæ, q. s. ad,.....f 3 ij

M. S.—One teaspoonful, diluted, every two hours.

Rectal injections are very useful, and may be the only available means of medication.—Three drops of laudanum may be given every six hours or oftener, when the symptoms are dysenteric; or nitrate of silver when the stools are serous or contain mucus, blood and pus. Smith's formula is a good one :

R Argenti nitrat.,.....gr. j
 Bismuth. subnit.,.....3 j
 Mucil. acac.,.....
 Aquæ,āā 3 ss

M. S.—For one injection. Repeat in twelve hours if necessary.

These injections must be preceded by enemata of warm water to clear out the bowels, and must be discontinued for twenty-four hours every third or fourth day. Intertrigo demands the keeping of the parts dry and clean, and the use of zinc ointment.

Prostration calls for stimulants. Wine of pepsin, whiskey or good brandy, are to be used. The dose must be regulated by the age and the depression. In cases which recover the diet and hygiene must be watched, the astringents gradually dropped, and digestants and tonics substituted.

In cholera infantum he recommends that nursing infants be allowed to nurse for a few minutes only, every half hour. For older children, or those brought up on the bottle, he recommends one of the following foods:

R Milk,.....f 3 ij
 Cream,.....f 3 ss
 Lime water,.....f 3 ijss
 Milk sugar,3 j

Mix in a clean tincup, pour into bottle, adjust tip, and warm by plunging into hot water.

R Milk,.....f 3 ij
 Cream,.....f 3 ss
 Mellin's food,.....3 ij
 Hot water,.....f 3 ijss

Dissolve the Mellin's food in the hot water, add the milk and cream, and if necessary, warm as before.

R	Milk,.....	f 3 ij
	Cream,.....	f 3 ss
	Flour-ball,.....	3 j
	Water,.....	f 3 ijs

The flour-ball is prepared by tying a few pounds of flour up tightly in a cloth, and boiling it in a pot of water for twelve hours; then removing the cloth, peeling off the outside coating which has been wet, and grating down the hard ball of flour as it is needed. It must be kept perfectly dry, and in a tightly closed tin box, when not being used.

When milk preparations do not agree he gives whey, stripings, or beef-juice; and if these fail—

R	Flour-ball,.....	3 ij
	Water,.....	f 3 vj

Mix and add half the white of a fresh egg.

The foods should be given in such quantities as can be retained, and at intervals corresponding to the amount taken at one time.

To check the diarrhea he gives opium and astringents.

R	Morphinæ sulph.,.....	gr. ½
	Acid. sulph. arom.,.....	ʒ xxiv
	Elix. curaçœ,.....	f 3 ss
	Aquæ, q. s.,.....	ad f 3 ij

M. S.—A teaspoonful every two hours for a child six months old.

To this he adds the administration every three hours of an enema containing two drops of laudanum in two teaspoonfuls of starch water. Two or three times daily a plaster consisting of one part of mustard to five parts of flour must be applied over the whole surface of the abdomen, long enough to redden the skin. The body should be sponged several times a day with warm water (95°).

The clothing and person must be kept perfectly clean; the sick room must be large and airy, and the infant must lie in bed. If possible the child should be sent early to the shore or the country. Failing in this, it should be sent out in a coach, morning and evening, or on the water, every day. Stimulants are needed from the first to ward off prostration. Five to ten drops of whiskey in a teaspoonful of lime water may be given every two or three hours to a child aged six months.

When collapse sets in the quantity must be increased.

R. Sp. frumenti,f℥ ss
 Ammon. carb.,gr. xxiv
 Syr. acaciæ,f℥ j
 Aq. menth. pip., q. s.ad f℥ iij

M. S.—A teaspoonful pro re nata.

The temperature must be maintained by hot flannels and water-bottles, and the child kept in a recumbent posture, and disturbed as little as possible.

Astringents are still useful in this stage, but opium must be used with great caution, or discontinued if there are cerebral symptoms and semi-coma.

LOOMIS says that the treatment is mainly prophylactic. The establishment of seaside sanatoria for children in summer is the most important advance made in the management of this disease.

He gives a few drops of **brandy** in a little barley water at the outset, and insists on the child being kept in bed in the horizontal position, as long as the vomiting continues. The only drug he has found efficacious in controlling the vomiting is **calomel**, which should be given dry on the tongue, gr. $\frac{1}{12}$, every half hour. Bismuth and calomel are efficacious when the stools contain much mucus.

If diarrhœa persists after the vomiting has ceased, he gives five to ten drops of paregoric every two hours. For excessive purging, great prostration and but little vomiting, he gives camphor and brandy.

The vegetable astringents are of service to control the diarrhea which follows a severe attack of cholera infantum.

During convalescence he recommends wine-whey, cod-liver oil and the phosphates externally as well as by the mouth, together with a resort to the sea-shore, and salt water baths. Flannel should be worn next the skin, and great care exercised to prevent capillary bronchitis, which carries off many convalescents.

HARTSHORNE agrees with all others as to the importance of sea air, which, he says, will often cure without other treatment. But if the food be bad, or the water be contaminated with privy-poison, the sea-shore will not prove beneficial.

If a mountain resort be more convenient, it will answer almost as well. Any moderately elevated locality out of the city, with good milk and pure water, is infinitely preferable to any part of the city.

If children cannot be taken from the city, they should be taken to the park, the open squares, or on the water.

Infants should not be weaned in the hot months.

He makes the valuable suggestion that when vomiting is obstinate, all food and drink should be withheld for six to ten hours. This allows the stomach to rest, and rid itself of accumulations.

Ice is the best remedy for thirst.

The gums may require lancing, if swollen and tinged with blood, with the crowns of the teeth near the surface, and if nervous irritation be evident.

Cool baths are very beneficial; placing the child in water at 85°, and gradually reducing the temperature to 75°. Ten minutes is long enough, and the bath may be repeated.

If the rectal temperature be very high while the extremities are cold and shrunken, cold enemata may be beneficial.

To relieve the gastric and intestinal distress, he uses spice poultices wet with whiskey.

He uses calomel in the early stage, when diarrhea is not excessive. Dose, one-twelfth of a grain, four times daily, with magnesia or soda, and ginger. He disapproves of emetics and cathartics, but finds aromatic syrup of rhubarb useful in the early stages as a corrective.

When the diarrhea is exhaustive and restlessness wearisome, especially at night, he gives five to ten drops of paregoric, or a teaspoonful of camphor water. If the diarrhea should not yield to this treatment, he gives tincture of catechu, or the following:

R	Pulv. gallæ opt.,.....	℥ ss
	Pulv. cinnamom.,.....	℥ ij
	Pulv. zingiber.,.....	℥ ss
	Sp. vini Gallic.,.....	O ss

M.

Let it stand in a warm place for two hours, then burn off the brandy, holding some lumps of sugar in the flames. Strain through blotting paper. Dose, fifteen to forty drops every three or four hours.

Nitrate of silver has proved useful when given by enema; one-tenth of a grain to an ounce of water.

Acetate of lead should be reserved for cases where a positive astringent effect is required by long continued diarrhea. Alcohol must be used with the same caution as opium. The time for stimulants is when collapse threatens, or when the strength begins to fail. They are best given in food.

DAVIS says that in the early stage of mild cases, with thin stools and lassitude with paleness he gives:

R Acid. hydrobromic. dil.,.....
 Elix. simp.,.....
 Tr. opii camph.,.....āā f 3 ij

M. S.—Six to ten minims, twice to four times daily, in sweetened water.

If bile be absent from the passages, and the urine scanty, he gives one of the following powders twice daily:

R Hydrarg. chlor. mitis,.....gr. iij
 Sodii bicarbonat.,.....gr. vj
 Sacch. lactis pulv.,.....3 ss

M. et in chart, no. xv div.

S.—To be discontinued when the stools become yellow or green.

When the disease has lasted one or two weeks and the stools are sour and caseous:

R Acid. carbolic,.....gr. iij
 Glycerin.,.....f 3 ijss
 Tr. opii camph.,.....f 3 j
 Aquæ cinnam.,.....f 3 jss

M. S.—Ten minims in a little sweetened water every four to eight hours.

In the severe attacks known as true cholera infantum he gives:—

R Sodii bicarb.,.....3 j
 Morphine sulph.,.....gr. j
 Aquæ,f 3 ij

M. S.—Six to fifteen minims immediately after each act of vomiting.

At the same time, if the stools are frequent and very thin, he gives one of the following powders every four hours until the stools are lessened:

℞ Hydrarg. chlor. mitis,.....gr. iij
 Plumbi acetat.,.....gr. iij
 Pulv. opii,.....gr. j
 Sacch. alb.,.....gr. xxx

M. S.—For a child six months old, divide into twelve powders.

It is of great importance to give the medicines immediately after vomiting.

Some cases occur which show too much bile in the passages. For these the formula containing carbolic acid is efficient.

If the urinary secretion be deficient:—

℞ Sp. æth. nitros.,.....f 3 iv
 Tinct. digitalis,.....f 3 j
 Syr. simp.,.....f 3 iv
 Aquæ,.....f 3 ij
 Potass. acetat.,.....3 iij

M. S.—Ten minims every two to four hours.

Sometimes the active symptoms of the first stage pass away, but a low grade of fever is left, with pain before the passages, which latter consist of feces mixed with mucus. For this condition he uses—

℞ Ol. terebinth.,.....f 3 iij
 Ol. gaultheriæ,.....f 3 ss
 Tinct. opii,.....f 3 ij
 Mucil. acac.,.....f 3 iv
 Sacch. alb.,.....f 3 iv

Rub thoroughly together and add:

Aquæ,.....f 3 iij

M. S.—Shake the vial. Ten minims every three to six hours until the discharges become natural.

When the diarrhea becomes chronic but without dysenteric mucus or straining—

℞ Phloridzin,.....3 ss
 Sp. ammon. arom.,.....f 3 j
 Tr. opii camph.,.....f 3 j
 Syrupi,.....f 3 ss
 Aquæ,.....f 3 iss

M. S.—Fifteen minims four times a day.

In very protracted cases, with anemia—

R. Quininæ tannat.,.....gr. iij
 Pulv. opii,.....gr. ij
 Hyd. cum cret.,.....gr. iij
 Sacch. alb.,.....gr. xx

M. Div. in chart. no. vj.

S.—One at bed time.

With this he gives the liquor ferri nitratis three times daily.

The unusual number of prescriptions given is explained by Dr. Davis on the ground of the varying character of the disease, and the importance of following closely the indications in each case.

BARTHOLOW cautions against allowing the child from thirst to overload its stomach with unnecessary food. To check the vomiting and purging, and lessen the fever, he gives **brandy**, in doses of twenty minims to a drachm every two to four hours.

Zinc and silver are useful when the diarrhea prevails, while for excessive vomiting he prefers calomel, in small doses. If there be much straining, with mucous stools streaked with blood, he gives Fowler's solution, $\frac{1}{8}$ to $\frac{1}{4}$ drop, with half to one drop of laudanum every three hours. Very profuse discharges require enemas of laudanum.

CHORDEE.

BERKELEY HILL recommends abstinence from stimulants of all kinds and from late suppers; light clothing; and a hard mattress at night, as the best means of preventing chordee. The bladder should be emptied frequently during the night. The best medicine is a suppository of one grain of crude **opium** at bedtime. Or, one-sixth of a grain of acetate of morphia may be injected into the perineum. An aperient saline should be taken next morning. A drachm of tincture of camphor at bedtime, repeated in the night if chordee comes on, is an uncertain remedy. More trustworthy is a dose of chloral, gr. xx-xxv, at bedtime.

Bathing the genitals with very hot water for ten minutes before going to bed sometimes proves successful. To disperse an attack, the best remedies are voiding urine, applying cold to the perineum, and standing upright.

LEBERT orders the following:

R Camphoræ,.....
 Lupulinæ,.....āā gr. xlv
 Ext. opii,.....gr. ivss
 Ext. glycyrrh., q. s.....

M. Ft. mas. et in pil. xxx div.

S.—Two or three at bedtime.

Bromide of potash, ten or fifteen grains at bedtime, often gives a better night's rest.

J. W. WHITE says that the most effective of all preventive measures is to secure a movement of the bowels before retiring. Monobromide of camphor, three to five grains, is a most useful remedy; lupulin in twenty grain doses is a valuable sedative to the genital organs, and gelsemium, in ten minim doses of the fluid extract, repeated every time the patient wakes with chordee, has proved extremely efficacious. None of these remedies are so efficacious as bromide of potassium. It should be given till decided drowsiness is produced. It should be given during the day, with a double dose at bedtime, perhaps with belladonna.

HENRY LEE says that the most effective remedy is a suppository of one grain of opium and three of camphor, at bedtime.

MILTON, in his carefully prepared chapter upon the treatment of this affection, says that sedatives are objectionable unless there is pain in the testicle or perineum; as they disorder the stomach.

After trying every antispasmodic, he finds nothing equal to **camphor** in the fluid form—the spirit, in drachm doses. The chordee should be cured as quickly as possible, and this can be best done by giving the full dose, repeated several times at short intervals. A teaspoonful may be taken on going to bed, and repeated every time the patient wakes with chordee. It may be taken in water, or better in milk.

Sometimes, when the patient does not like camphor, he uses:

R Potas. bromid.,.....gr. xx
 Chloral hydrat.,.....gr. v
 Sp. vini Gallic.,.....f3 ij
 Ess. camphoræ,.....f3 ss
 Aq. menth. pip.,.....f3 ij

M. S.—At bedtime.

CHOREA.

After considering the question of the self-limitation of this disease VON ZIEMSEN concludes that treatment is of decided use and often directly curative. He goes on to remark that the entire regimen must be regulated with care. The child must be taken from school, and all head-work at home must be stopped. It is very useful to spend a long time in the country or at the seashore. With the poor the effect of hospital treatment is very good.

But the course of chorea is seldom affected by these means alone. The food should be abundant and strong, and the child should be in the open air as long as possible. Sleep is most important, and if ordinary means fail to secure it, **chloral** should be given. This drug is of extraordinary value, especially when the jerkings prevent or accompany sleep. It is sometimes well to procure a few hours sleep during the day by its use, when the patient is exhausted by intense jerking. Exercise must be regulated by the nature of the case. When the chorea is violent in the trunk and limbs, walking must be forbidden. Gymnastics should be postponed till the declining period. Such exercises are not to be used in symptomatic chorea.

Arsenic is far from getting the credit it deserves, mainly because the dose given is inadequate. He gives five to eight drops of Fowler's solution to children, and up to twelve drops to adults, thrice daily. If gastric disturbances follow its use, the drug may be suspended for a few days and then resumed.

R Liq. potas. arsenitis,.....f3 ij
 Aquæ cinnamomi,.....ad Oj
 M. S.—f3 ss to f3 j, thrice daily.

He does not recommend the hypodermic use of arsenic, as the pain is too severe. He quotes STEINER, who obtained good results from smaller doses of arsenic, by using the following:

R Liq. potas. arsenit.,.....gtt. viij
 Tinct. opii,.....gtt. vj
 Aquæ.....f3 iv
 M. S.—f3 ss four times daily.

Ziemnssen further states that the favorable action of arsenic is usually manifest in a week, and two weeks suffice to reduce the

symptoms to a minimum. In some obstinate cases arsenic succeeded after the failure of bromides, zinc, electricity and hydropathy. These cases were all idiopathic. He is not so sure that arsenic is as useful in symptomatic chorea. His careful trials of bromide of potash showed it be useful. The use of strychnia has ceased since SEE's criticism. **Chloral** is not needed in any but the worst cases. He gives it then in doses sufficient to insure sleep; fifteen to eighty grains at once. Chloroform has been superseded by chloral in the treatment of chorea. Electricity proved useless in his hands. Hydropathy was of doubtful benefit, apart from its effect on the general health.

To prevent relapses, Ziemssen recommends a long residence at the coast, in the country, or among the mountains; with the use of salt baths, social stimulus and careful avoidance of social and bodily evils.

BOUCHUT reports 437 cases treated with eserine sulphate (gr. $\frac{1}{32}$ to $\frac{1}{12}$ for a child seven to twelve years of age), given for a long time. He states that by this drug chorea was cured in an average of ten days, but Ziemssen expresses the usual German doubt of any result obtained by a Frenchman.

WHARTON SINKLER adds his voice to the strong testimony in favor of **arsenic**. He gives it in increasing doses until toxic effects are manifest, or convalescence is established.

Patients often become worse for some days after arsenic is given, but improvement begins in about a week. He claims that the hypodermic use of arsenic succeeds when its internal administration fails. He has seen **cimicifuga** do good where arsenic failed.

Galvanization of the spine produces a quieting effect in some cases. **Iron** is always of use in chorea. Ether spray or ice to the spine for ten minutes once or twice daily sometimes assists other means. It is of the greatest value in bad cases to put the patient in bed and keep him there until better.

ZIEGLER reported some remarkably speedy cures in cases treated by confinement to bed, and the inhalation of amyl nitrite.

VAN BIBBER added to rest in bed, the influence of darkening the room, with advantage.

S. WEIR MITCHELL used salicylate of soda with success.

PHILLIPS recommended massage and free feeding.

ROBERTS states that he has found no one remedy suitable for all cases, but selects one or the other in different cases. If the motions be very severe, he suggests that the patient sleep on an air or water bed.

TROUSSEAU speaks favorably of the influence of **gymnastics**. The patient should keep time with another person or with a clock. The exercises should last half an hour, and be repeated daily. It is also found best that the exercise should be participated in by other children; the influence of class gymnastics being preferable to those performed alone. In some cases he approved of the treatment by **tartar emetic**. Four grains were given on the first day, eight on the second, and twelve on the third. The patient was then allowed to rest for four days. If necessary the drug was resumed, giving five, ten, and fifteen grains in three days. If after another interval of rest the symptoms persist, the drug is resumed; being given in doses of six, twelve, and eighteen grains.

Such a treatment is only to be used in the most severe cases, which have resisted ordinary treatment, and when death is threatened from the violence of the disease. His favorite remedy was **sulphate of strychnia**. He gave it in doses of gr. $\frac{1}{20}$, at equal intervals, twice a day, increasing to six times a day, if well borne. Then the dose was doubled, gr. $\frac{1}{10}$ being given three to six times daily. Then gr. $\frac{1}{5}$ was given at one of the six doses, then at two, and so on until six times daily this enormous dose was administered to a child!

The treatment was persisted in until the patient was tetanized. Throughout the case the effects of the drug must be carefully watched, as they vary in different cases.

TANNER says that the two great remedies are the **cold shower** or **douche**, and **iron**. In obstinate cases he gives arsenic, zinc, or Parrish's food with the chalybeate.

ERB states that by the use of **electricity** no good has been

effected in old cases in adults, while recent choreas in children have been decidedly benefited and shortened in many cases.

He applies the large electrodes so as to bring the motor regions, directly between them; the anode to the central convolutions, the cathode to the opposite side of the neck. A feeble current is transmitted for half to one minute, from four to eight cells.

BERGER placed a bifurcated anode on both parietal regions, and the cathode to the hand or the back, and continued the application for five or ten minutes.

In addition galvanization of the sympathetic and the cervical cord may be performed to produce indirect catalysis.

TURNBULL obtained good results from the use of **aniline** sulphate, 5 to 8 centigrammes thrice daily. When this drug has been long used it produces an alarming discoloration of the lips, tongue, nails and hands, and even of the skin generally. When the drug is discontinued, for one day, the color disappears.

ROSENTHAL speaks favorably of **galvanization**; a stable current of moderate intensity being passed from the spine to the affected parts for three to five minutes. He also recommends moist packs, followed by half baths at 22° C., gradually cooled to 18° C., the body being frequently douched and rubbed during the whole procedure.

PUTZEL warns us against continuing the use of chloral too long, as it gives rise to bad after-effects, especially anemia.

He uses such tonics as are indicated in each case; such as cod-liver oil, simple bitters, or iron; but gives none of them as specifics.

Gray and Tuckwell found the average duration of their cases to be sixty-nine days, when treated on the expectant plan alone. Begbie's cases, treated with arsenic, averaged about seventy-three days. Sée's average in 117 cases treated variously was the same as Gray's. Putzel favors the arsenic treatment, with chloral and bromide together for violent cases. He has found improvement in the symptoms following the inhalation of amyl, but after the first two weeks the disease runs the usual course.

Curare has proved successful in a few cases of chorea in old age. One-tenth of a grain is given, hypodermically, as when given by the mouth it is eliminated so quickly that no effect is produced on the nervous system.

If other means fail to control the motions, inhalations of chloroform must be used.

HENOCH, besides the use of arsenic and chloral as recommended by Ziemssen, speaks favorably of **purgatives**, if the patients are not anemic. He administers them at first for two days, and then discontinues arsenic one day in each week, giving castor oil or senna instead.

NIEMEYER says that when rheumatism complicates chorea, baths of sulphuret of potassium (3 j to Cong. xij) are as much indicated as iron is in anemic cases. Whenever the vertebræ are sensitive to pressure, cups or leeches should be applied along the spine.

RADCLIFFE speaks very favorably of the **iodide of iron**, believing that both elements contribute to the good effects. He quotes Barlow's recommendation approvingly, to treat ordinary cases by keeping the bowels freely open and giving sulphate of zinc, in doses gradually increased from one grain to twenty, until it causes sickness or the symptoms are ameliorated. The zinc should then be gradually decreased. He mentions several cases which were benefited by the free use of alcoholic drinks.

BROADBENT speaks favorably of the use of **tartar emetic** in those terrible cases, happily rare, where all ordinary treatment fails, and life is endangered by the violence of the movements.

DAVIS gives two grains of valerianate of zinc, in coated pill, four times a day; and in addition, Fowler's solution, ℥ iij to v, in a tablespoonful of water after each meal. In twenty years he met few cases which did not yield and become convalescent in two to three weeks. If the patient be unusually restless at night, a dose of valerianate of ammonium at bedtime will secure rest, and contribute to steady the muscles during the next day. A mixture

of chloral and bromide of ammonium is also effectual for the same purpose. In very severe cases he uses the warm douche to the occiput and spine. In anemic cases he combines arsenic with lactophosphate of lime and Huxham's tincture; avoiding iron, as it tends to cause headache or to increase the movements.

For rheumatic cases he prefers salicylate of soda, with *cimicifuga* and gelsemium. The use of **cimicifuga** he believes to be limited to such cases, and in these its efficacy is increased by the salicylate, and stramonium or colchicum.

DA COSTA obtained excellent effects from the use of **bromide of iron**. He gave five grains thrice daily, rapidly increasing the dose to a scruple. Others have been less successful with this remedy. In an obstinate case which had resisted ordinary measures, he effected a cure by the hypodermic injection of hyoscyamine, gr. $\frac{1}{100}$, three times a day.

BENJ. EDSON reported in *The Medical World* a case cured by the same means.

A. W. HAMILTON found phosphorus and cod-liver oil effectual where all other remedies had failed.

STILLE considers **cimicifuga** one of the most valuable remedies in this disease. He gives it in doses sufficient to develop its constitutional effects.

RINGER, however, finds it only useful in rheumatic cases, and even then inferior to arsenic.

Notwithstanding this high authority, we must say that we are very partial to *cimicifuga*. We have repeatedly found chorea rapidly disappear under its use, when it had resisted the action of arsenic for weeks or months. It is not easy to get a good preparation of the drug. Whenever it is possible, we make use of a decoction of the fresh root, and give it until decided symptoms of its action are manifested. Of the preparations in the shops, none have answered so well in our hands as Keith's macrotin.

We have also found rest in bed of great value, in the first part of the disease; and in the declining stages we invariably

order a course of light gymnastic exercises. This should always be easy and agreeable. The patient should be in a class of non-choreic children, and the exercise should be made attractive by music, singing, and a bright and tasteful uniform. It should not be repeated more than once a day, and should always stop short of fatigue. A country life is better than a residence in a city or at the sea-shore. A diet largely composed of fruit, especially grapes, has proved beneficial. Except in one case of symptomatic chorea, ether spray to the back has produced no good effects other than those obtained from the cold douche. The latter is a powerful agent in experienced hands.

We give arsenic before meals, well diluted; and use other tonics only as indicated.

CHYLURIA.

TIMOTHY LEWIS says that treatment has generally proved unsatisfactory. Iodide of potash and tincture of iron have seemed to be useful occasionally. In Guiana a decoction of mangrove bark has some reputation; while in India the seed of *nigella sativa*, an ingredient of curry powder, has a local celebrity. The latter remedy has failed on extended trial. The best results yet obtained have been from the use of gallic acid, one to two drachms daily.

CIRRHOSIS.—(See Liver; Diseases of.)

COLIC.

GEORGE OLIVER advises that the bowels should be emptied by a purgative dose of calomel (gr. v), or rhubarb (gr. xx), with a grain of opium, followed by repeated doses of sulphate of magnesia, with laudanum or tincture of henbane and spirits of chloroform, until free action of the bowels is obtained.

A suppository containing half a grain each of morphine and extract of belladonna or a hypodermic of morphine may give immediate relief.

Large warm enemata often relieve quickly. Other suitable measures are the warm bath, friction with warm oil or liniment, fomentations, steamed flannels, turpentine stupes, sinapisms, etc.

DAVIS comments strongly on the absurdity of the alternation of anodynes and cathartics in this affection, and says that the latter keep up the pain. He administers anodynes until relief ensues, and then gives large enemata of warm water. If several of the latter fail to produce evacuations, and the pains and distension begin to return, he advises injections of chloral and belladonna, or of infusion of tobacco, to relax the spasm.

BARTHOLOW says that the flatulent colic of infants is quickly and safely relieved by bromide of potassium (gr. v) and oil of anise (gtt. $\frac{1}{2}$) every half hour.

For immediate relief (in adults) no remedy is comparable to the hypodermic injection of morphine and atropine.

He recommends quinine in intermittent colic, iodide of potassium in nocturnal colic, and for hysterical colic Hoffman's anodyne with valerian. For chronic enteralgia, arsenic is first on his list.

LOUIS STARR, speaking of the colic of infants, insists upon the importance of not feeding too frequently.

If the supply of breast milk be deficient, it must be supplemented by the use of artificial food, like the following:

R	Milk,	f℥ ij
	Cream,	f℥ ij
	Barley-water,	f℥ ij
	Caraway-water,	f℥ j
	Sugar of milk,	3 ss

Mix in a clean vessel, pour in a clean bottle, and heat to 98°. If constipation be present, replace the barley-water by oatmeal gruel, or Mellin's food. The body should be anointed twice a day with warm olive oil, and enveloped in a flannel roller. Long woolen stockings should be worn.

For the attacks of pain he gives ten drops of gin in a little warm water, or:—

R	Sodii bicarb.,	gr. xvj
	Syrupi,	f℥ ss
	Aq. menth. pip., q. s. ad.	f℥ ij

M. S.—One teaspoonful as needed, for a child of one month.

In severe cases two drops of aromatic ammonia may be added to each dose, or one drop of spirit of chloroform.

R Potas. bromid.,.....gr. xvj
 Chloral hydrat.,..... gr. viij
 Syrupi,.....f℥ ss
 Aq. menth. pip., q. s. ad.....f℥ ij

M. S.—Dose, one teaspoonful every half hour as needed.

This is only to be used in severe cases. Should the paroxysm threaten collapse, the infant must be placed in a warm bath, then wrapped in a blanket, a poultice with mustard applied to the abdomen, and warm gin or brandy given, and continued as needed.

The following has been found of great value in infant's colic:

R Tinct. castorei,.....f℥ ij
 Tinct. opii camph.,.....f℥ ss
 Potas. carbonat.,..... gr. xxx
 Syr. rhei aromat.,.....f℥ j
 Syr. acaciæ, q. s. ad.....f℥ ij

M. S.—A teaspoonful every two hours as needed.

For severe attacks the warm bath, the spice poultice to the abdomen, or better, a warm enema with a few drops of turpentine, prove effectual. The digestion will usually be found at fault, and should be carefully regulated. Small doses of rhubarb and ipecac., with an alkali, will be found more efficient than pepsin and carminatives. In one case the attacks ceased when the child was put upon a diet of Lactated Food. In other cases the addition of a little malt extract to the food was followed by complete cessation of the painful symptoms.

When constipation coexists, a little of Keasby and Mattison's malt extract will be the best corrective, this being somewhat laxative. If a tendency to diarrhea be present, we prefer Maltine, or Wiley and Harris' dry granulated malt extract.

We cannot too highly approve of Dr. Starr's recommendation to anoint the body. Any animal oil will answer for that purpose. In one obstinate case of colic in a child one year old, all remedies proved useless, until I dilated the sphincter ani with the finger, whereupon the pains ceased.

In the colic of adults, the best remedy is the hypodermic of **morphine**. In cases where this is inadmissible, or unattainable, the internal use of **ether** (f ℥j every ten minutes, with but little

water), or of **chloroform** (gtt. x, every ten minutes), will prove efficient substitutes. **Chlorodyne**, in doses of five to thirty drops, and the "hot drops" recommended in the article on cholera morbus are also useful remedies in colic. Our own experience leads us to sustain Dr. Davis' views as to the inadvisability of giving purgatives, until the attack is over. [W. F. W.]

COLLAPSE.—(See Shock.)

CONSTIPATION.

The treatment of occasional constipation needs no attention here, except to warn against the possibility of intestinal obstruction being present. The limits of this work forbid any discussion of the diagnosis of this condition, but it would be unpardonable for a physician to prescribe purgatives in a case of strangulated hernia, intussusception or other mechanical occlusion of the bowels.

For chronic constipation, we lay down the following rules:

Examine carefully to ascertain whether the difficulty does not depend on retroversion of the uterus, spasm of the sphincter ani, stricture of the rectum or obstruction from the pressure of a tumor against the rectum. If none of these conditions are present, impress the patient with the importance of bringing to his aid the powerful influence of habit, by going to the water-closet at the same hour every day.

He should be told to avoid straining, and to allow himself plenty of time for this important function. The habit of taking a newspaper to the closet and reading, is to be commended. Thorough evacuation of the bowels prevents the rectum becoming too tolerant of the presence of fecal matter. If sedentary habits be the cause of constipation, suitable exercise should be recommended. Walking is in our opinion the best form, though horseback riding has many advocates. Cold douche or shower baths to the spine and abdomen are very useful. Frictions to the abdomen with stimulating liniments aid greatly in removing torpidity of the intestinal muscles.

Wherever it is possible, reliance should be placed on such means, and a suitable diet, to the exclusion of drugs. Laxative articles of food are, oatmeal with the hulls not removed, fresh or dried fruit, bran bread, cracked wheat, and hominy. Prunes have a reputation they do not deserve.

Smoking has a beneficial effect in some cases.

A glass of ice water before breakfast will prove effectual in many cases. If such simple means prove ineffective, a heaped teaspoonful of table-salt may be added to the matutinal draught of cold water; or a glass of Kissengen, Massanetta or Congress water substituted.

Stronger remedies are, a teaspoonful of Epsom, Rochelle or Glauber's salts in the glass of cold water, or a half-tumbler of Friedrichshall or Hunyadi water. If there be abnormal dryness of the fecal mass, five or ten grains of chloride of ammonium may be given, with a teaspoonful of sulphate of magnesia.

None of the above remedies should be given except on arising in the morning, and at least half a pint of cold water should be taken at the same time.

Few cases will resist this treatment, and the dose of the saline will rarely require to be increased. When, however, cases of such obstinacy do occur, the following prescription should be given:

R Ext. aloes purif.,gr. xx
 Ext. nucis vom.,.....gr. x
 Ext. belladonnæ,..... gr. iv
 Oleores. capsici,.....gr. ij

M. ft. mas. et in pil. no. xx divide.

S.—One pill to be taken after each meal.

As soon as two passages occur in one day, the pills are to be cut in two, and one-half pill to be taken three times a day. When this causes two daily passages, the dose is to be decreased to one-fourth, then to one-eighth, one-sixteenth, and so on, until the mass can be divided no further. Then the midday dose is to be dropped; then the evening dose, and the morning portion continued for some months.

It is necessary that these directions be followed implicitly, or no permanent benefit will ensue. If the pills produce several daily evacuations, the patient is apt to continue the full dose,

particularly as he feels much relieved. In that case, the pills will soon lose their effect, and be pronounced inefficient. When the instructions are intelligently carried out, and the influence of regularity in going to the closet added, I have yet to see a case of chronic constipation which the above prescription failed to cure.

Some years ago I recommended the above regimen and pill in the case of a lady whom I saw in consultation with a young medical friend.

After a fair trial I was informed that the treatment failed. I at once wrote to my friend that there must be a mechanical obstruction, and on examination a tumor was found between the uterus and rectum, which compressed the latter organ. [W. F. W.]

TROUSSEAU was very partial to the use of **belladonna** as a laxative agent. OLIVER recommends small **enemas** of cold water. Our own experience is strongly against their use in habitual constipation, as they tend to produce torpor of the rectum. In the constipation of general paresis, or of ordinary paralysis, an excellent remedy is an enema of a pint of cold water in which a handful of common salt has been dissolved.

Large warm injections are only proper for occasional use, to unload impacted bowels.

BARTHOLOW says that if the motions indicate the absence of bile, phosphate of soda or sulphate of manganese will be effective; the latter in gouty habits, the former, with arseniate of soda, in cirrhosis.

In habitual constipation he recommends the tinctures of physostigma, belladonna and nux vomica, ten drops of each three times a day. If the rectum be torpid, he adds aloes to the above.

If the subject is plethoric, with deficient secretions and sluggish bowels, he gives sulphate of magnesia with sulphuric acid and strychnia sulphate, gr. $\frac{1}{60}$, in solution. In anemic cases he adds the sulphate of iron to the last formula.

When we have to treat paresis of the muscular layer, he recommends belladonna, nux and the warm purgatives, with the use of electricity. One electrode is placed in the rectum and the other is attached to a large sponge and placed on the abdomen. A slowly interrupted galvanic or a faradic current is thus applied daily.

Besides these he gives a nightly dose of podophyllin with belladonna, nux and ergot. He has obtained good results from tamar indien, a combination of senna and croton oil. The nightly dose is gradually reduced.

DAVIS makes use of the following pill:

R Ferri sulphat.,.....
 Ext. hyoscyami,.....āā gr. j
 Ext. aloes pulv.,.....
 Ext. nucis vom.,.....āā gr. ½

M. f't pil, no. j. S.—Take before each meal and at bedtime.

If the tongue have a yellowish coat, and the urine throw down a phosphatic or ammoniacal sediment, he adds one third of a grain of blue pill to each dose. As soon as more than one passage occurs in one day, he omits one pill; still later another may be omitted.

FOTHERGILL gives some excellent points in the use of various cathartics.

Rhubarb is the worst of all drugs for habitual use. [And yet many cases of chronic constipation find relief from chewing a small bit of the root at bedtime.] He recommends it where any operation on the bowel or pelvic viscera is to be performed, for it opens the bowels and then locks them up.

Aloes acts chiefly on the rectum, a little on the duodenum also, and is always useful with iron, or in allaying pelvic excitement in women, when combined with alkalies.

In constriction and subsequent dilatation of the bowels, a full dose of laudanum with large doses of sulphate of magnesia is useful, one allaying the pains, while the other liquifies the fecal masses.

For the aged and feeble, and for women at the change of life, salines should be given with chloroform, ginger, capsicum or cascarrilla.

LOOMIS objects to the daily use of saline waters, claiming that they render constipation inveterate. We must say that in this we agree with him. We have never seen a cure result from the administration of salines; their use simply giving relief for the time they are taken.

His favorite combinations are: (1) aloes, myrrh, colocynth, gentian and quinine; (2) aloes, rhubarb and strychnine; (3) strychnine and aloin; (4) nux, aloes, belladonna and podophyllum.

Belladonna and hyoseyamus he recommends particularly for females; podophyllum produces slow and painless evacuations, and acts efficiently for a long time. In very obstinate cases colocynth, scammony and croton oil may be required, until the habit of daily evacuations has been formed.

Rhubarb and magnesia forms his favorite combination for children and young girls.

DA COSTA recommended the following:

℞ Podophyllin,.....
Ext. belladonnæ,.....āā gr. j
Capsici,..... gr. v
Pulv. rhei,.....gr. xx

M. Ft. mas. et in pil. no. xx div.

S.—One pill three times a day.

A pleasant laxative is the following, which appeared first in *The Medical World*, under the name of Laxative Sugar:

℞ Sodæ et potas. tart.,.....ʒ iv
Potas. bitart.,.....ʒ ij
Acid. tartaric,.....ʒ ij
Ol. limonis,.....gtt. xx
Sacch. alb. pulv.,.....lb. j

M. S.—One or more heaped teaspoonfuls to be taken in a glass of cold water, on rising.

CONVULSIONS.

II. CHARLTON BASTIAN says that during the spasm we should see that the clothing is loose about the neck and chest, the patient placed in the supine posture and the head slightly raised. He should not be restrained, except to prevent him from injuring himself or others. If possible, something should be slipped in between the back teeth to prevent him from biting his tongue.

If the attacks follow each other in rapid succession, **chloroform** may be carefully administered, but not to infants. For them the warm bath is substituted. An emetic or purgative should be given if needed.

Diarrhea must be checked, worms must be driven out, and the gums lanced, in cases requiring these measures. Careful regulation of the diet is often essential.

For general usefulness no remedies compare with the **bromides**. Quinine or belladonna may often be added with advantage.

Zinc may be tried when the bromides fail. In girls, the menstrual function must be regulated.

When mental or bodily fatigue, or any other obvious cause of the convulsions exists, such cause must be avoided.

In symptomatic convulsions he also recommends the bromides, with chloral if a hypnotic be needed.

LOUIS STARR, speaking of convulsions occurring during teething, says that the treatment consists in lancing the gums and administering chloral and the bromides. If the patient cannot swallow, these drugs may be given by enema.

R	Chloral hydrat.,.....	gr. xij
	Potas. bromid.,.....	3 ss
	Mucil. acaciæ,.....	f 3 j
	Aquæ, q. s. ad	f 3 iij

M. S.—A tablespoonful at a dose.

This is to be repeated every half hour for a child one year old, until the convulsive tendency is checked, or four doses are given. If this fails the chloral had better be omitted for two hours, the bromide being continued.

Convulsions from epilepsy, eclampsia, etc., will be treated in their proper places.

In regard to infantile convulsions I wish to call attention to the importance of examining the condition of the intestinal canal. A two year old child was once brought into my office by his mother, who informed me that he had had seven spasms in succession. I inquired what the child had eaten, and was told "nothing but a French roll and a cup of coffee." Not feeling satisfied, I gave the boy an emetic of ipecac. and mustard, and soon had the satisfaction of seeing him throw up quantities of rotten cantaloupe, rind and all, and *green* Bologna sausage. These he had picked out of a garbage repository, unknown to his parents. Prompt recovery ensued. [W. F. W.]

The thermometer will often show whether we should give hot brandy, or apply ice to the head; an axillary temperature of 103° indicating the latter, while a subnormal degree demands the stimulant, by the mouth or rectum. In the absence of any clear indication, prompt evacuation of the stomach and bowels, followed by Starr's enemas, the hot hip bath, rest and quiet in a darkened room, offer the most rational treatment for infantile convulsions.

CORYZA.

Camphor is an efficient remedy to break up a coryza, at the start. Three to six grains may be given, with or without one grain of **opium**, at one dose. To this may be added the use of a hot mustard foot-bath, the patient breathing the steam, and immediately wrapping up in a warm blanket and going to bed: where he should drink a bowl of hot ginger tea.

Quinine, in spite of its strong endorsements, is useless.

Cocaine has a curious effect. A four per cent. solution applied to the inflamed membrane will give immediate relief, which does not last long. By constantly reapplying this agent, we kept a coryza in check for four days. As soon as we discontinued the remedy, the disease pursued its usual course; so that we simply postponed its outbreak by the use of cocaine. Stronger solutions are said to have a more permanent effect.

The most efficient palliative for this exasperating affliction is **morphine**, in doses of one-tenth grain, taken when the congestion becomes unbearable. But with the next day's headache we pay dearly for the relief experienced. The inhalation of ammonia gives but the briefest relief, and increases the congestion. Washing out the nostrils with a little tincture of kino, one drachm to half a pint of warm salt water, is a very grateful palliative.

To lessen the liability to coryza, the best remedy is the morning cold shower bath, or cold sponging of the head and neck.

FERRIER recommends the following:

- R Morphine muriat.,.....gr. ij
- Bismuth. subnit.,3vj
- Acacie pulv.,.....3ij

M. S.—One-fourth or one-half the quantity may be used during the day, as a snuff.

BARTHOLOW recommends fifteen grains of quinine with half a grain of morphine, at one dose, to abort the cold. When the attack is established the best remedy is Lugol's solution, one drop every hour. If there is fever, aconite may be substituted.

If the secretion is watery and profuse, belladonna may be given with the aconite.

R Tinct. aconit. rad.,
Tinct. belladonnæ,āā f3 j

M. S.—Two drops every hour.

SAJOUS makes the following recommendations: After taking a hot mustard foot-bath, the patient is put to bed and given:—

R Ammon. chlorid.,gr. xl
Tinct. opii,;℥ xxiv
Sacch. alb.,3 j
Aq. camphoræ, adf3 j

M. S.—A teaspoonful in a half glass of water every hour for three doses, then every two hours.

The nose should be greased with lard or cold cream, while talc snuffed up the nostrils protects them from irritation. If the fever be great, aconite should replace the sal ammoniac.

Other remedies sometimes successful in aborting the attack are purgatives and pilocarpine, gr. $\frac{1}{8}$, every two hours till free sweating occurs. Even in the second stage the following will often abort an ordinary case:

R Morphine muriat.,gr. ij
Aluminis,
Bismuth. carb.,
Pulv. talc.,āā gr. xx

M. et in chart. no. xx divid.

S.—One to be snuffed up the nostrils every two hours, after clearing the nose.

The inhalation of iodine and carbolic acid is often effectual in causing a free flow of serum.

MACKENZIE prefers **laudanum**, and says that five or seven drops taken at the start will often cure the catarrh at once. The opiate acts quicker and with more certainty if taken on an empty stomach, and may be repeated if needed, every six hours.

If at the end of two days the coryza persists, efforts to abort it may be given up. Diaphoretics are then to be used.

LOWER called attention to the fact that total abstinence from liquids will generally quickly check a catarrh. In twelve hours it begins to diminish, and a cure is effected in two days. The system should be instituted at the very beginning of the attack.

SOLIS COHEN says that the induction of anesthesia by chloroform will often abort the disease.

CORYZA: CHRONIC.

SAJOUS speaks of the importance of cleanliness, but adds a caution as to the means employed. He prefers the atomizer and uses with it the following:

℞	Sodii bicarb.,.....	
	Sodii biborat.,.....	āā gr. viij
	Ext. pini Canadens. fl.,.....	ʒ xv
	Glycerinæ,.....	3 ij
	Aquæ, q. s. ad.	f3 iv

M. This should be used sufficiently often to keep the mucous membrane clean.

For cases which resist this treatment he has used the following:

℞	Iodi,.....	3 ss
	Acidi tannici,.....	3 ss
	Aquæ,.....	3 viij

Mix, filter, and evaporate to 3 ij, and add

	Glycerinæ,.....	3 iv
	Acidi carbolici,.....	ʒ ij

M. This should be applied several times a day, after thorough cleansing. The best instrument for making the application is a feather.

At times the good effect may be enhanced by alternating the application with that of iodide of zinc, gr. v to 3 j, or the sulphocarbonate of zinc, gr. v to 3 j.

Sometimes powders are preferable, such as:

℞	Hydrarg. chlor. mit.,.....	
	Pulv. aluminis,.....	āā 3 ss
	Morphin. hydrochlor.,.....	gr. ij
	Bismuth. subnit.,.....	3 j
	Sodii biborat.,.....	3 ss

M. Fiat pulv.

After thorough cleansing, a pinch may be used as snuff. It may be repeated four times daily.

If the stenosis be great, he applies **nitric acid** over a limited area, along the middle or inferior turbinated bone, taking care to avoid the septum. To prevent the severe pain ensuing when pure nitric acid is applied, a saturated solution of cocaine may be first used.

Instead of the acid, the **galvano-cautery** may be used, the knife being heated to a cherry red. During the treatment care should be taken to avoid catching cold. For permanent turgescence of the mucous membrane, pressure by means of bougies is very effective. He prefers flat medicated gelatine pencils of such consistency as to allow some time to elapse before they melt. They should only be allowed to remain for two minutes at first, and should be used twice daily. The applications should be continued two minutes longer each day. Cocaine, in two per cent solution, may be used before the bougie is introduced.

The medicaments he found most serviceable were hydrastis, coca, belladonna, boroglyceride and ergotin.

The objection to this mode of treatment is that the relief obtained is but temporary. Unless escharotics be applied, the membrane will return to its former condition within a year.

When the disease is due to local irritation from dust, means should be used to prevent its entrance; such as the wearing of cotton wool in the nostrils.

In the variety characterized by a profuse discharge from the nostrils, astringent applications should be used. One part of **alum** to two of talc should be used with the insufflator, four times daily. At the same time **strychnia** may be given internally. A weak faradic current passed through the nose is sometimes followed by gratifying results.

In some cases sedatives alone can be borne. Much relief is obtained from the use of **bromide of potassium**, gr. xv— $\bar{3}j$, with the atomizer, as a cleansing agent. Cocaine is exceedingly effective in these cases. When the membrane is dry, steam inhalations are preferable.

MACKENZIE calls attention to the fact that the nasal mucous

membrane will not bear as strong medicaments as the pharynx or larynx. His favorite application is the following:

R. Sodæ bicarb.,
 Sodæ biborat.,
 Sodii chlorid., āā gr. viij
 Sacch. alb., gr. xv

M. S.—Dissolve in half a tumblerful of tepid water.

For use with the nasal douche he recommends **tannic acid** (gr. iij— 3j), or alum (gr. iv— 3j).

If the above cause pain, sprays may be substituted, especially when the secretion is thin and profuse. The solutions of alum and of tannin just mentioned are suitable for sprays, and have cured cases of years' standing. When solutions fail he uses astringent or sedative powders, with an insufflator, or as snuffs. The following is his list of powders, with their doses:

Bismuth. oxychloridi.....gr. $\frac{1}{2}$ —j.
 Aluminis exsiccati.....gr. $\frac{1}{2}$ —j.
 Catechu pallidi pulverisati...gr. $\frac{1}{8}$ — $\frac{1}{2}$.
 Gummi rubri.....one part to two of corn starch.
 Ferri persulphatis.....one part to three of corn starch.
 Ferro-aluminis.....with an equal quantity of corn starch.
 Iodoformi.....gr. $\frac{1}{4}$ — $\frac{1}{2}$ with an equal quantity of corn starch.
 Morphine sulph.....gr. ij.
 Bismuth subcarb.....3 j
 Morphine muriat.....gr. ij
 Pulv. acaciæ.....3 ij
 Bismuth subnit.....3 vj

Of the last, one-fourth to one-half may be used in twenty-four hours.

DOBELL recommends the following snuff for chronic post-nasal catarrh: Take equal parts of camphor, tannic acid, white sugar and high dried Welsh snuff. A pinch is to be taken four times a day. On the occurrence of a fresh attack of catarrh the snuff is to be discontinued, but should be resumed on the subsidence of the inflammatory symptoms.

PORTER derived great benefit from the use of a snuff composed of camphor, tannic and salicylic acids. In long standing cases medicated bougies are often of great service. Should there be much swelling of the mucous membrane, an elastic bougie should be passed into the nose every day, and allowed to remain

there for a few minutes. Larger instruments should gradually be introduced, and allowed to remain longer, even for half an hour finally.

In obstinate cases and in the aged, the tonic regimen must be instituted, and patients should be recommended to seek a warm and dry climate.

For hypertrophy of the membrane covering the turbinated bones, he first resorts to the use of elastic bougies, as above described. Few cases will require more heroic treatment. When they do, destruction of the redundant tissue with the electro-cautery is the simplest method.

Chemical cauterants may be substituted, but they are less manageable.

Instead of destroying the diseased tissues, they may be removed by the snare. The operation should be done very slowly, being interrupted from time to time, and not completed in less than half an hour.

In using the galvano-cautery it must be remembered that the object is not to burn away all the hypertrophied tissue, but to cut channels through the mass, which will be followed by sloughing of the burned tissues with cicatrization, and the contraction of these cicatrices will restrain the exuberance of the tissues. Patients must be cautioned not to expect the perfection of relief immediately after the operation has been completed, as cicatricial contraction requires a long time before its effect is fully manifested.

In many cases the application of **chromic acid** will answer every indication. Those who are not familiar with the action of this powerful astringent should begin with very weak solutions; say, five grains to the ounce, gradually increasing the strength according to the necessity of the case.

It is questionable if this agent be not capable of accomplishing as much good as the cautery. Care must be exercised to keep it off the healthy tissues. It should be applied on a probe wound with absorbent cotton dipped into the solution and half dried, then applied only to the hypertrophied tissue. Rapid and permanent contraction follows the application.

In cases of atrophy of the mucous membrane with abnormal

dryness, some relief may be obtained by the use of the preparations of hydrastis; especially the solution in water of the white alkaloid, hydrastia sulphate.

CORNS.

ERASMUS WILSON says that the indications are to remove the pressure and friction, or equalize the pressure. The latter is best done by applying lead-plaster spread on wash-leather, after removing as much of the corn as possible by soaking, scraping, and turning out the core with a blunt instrument. Manicures dissect out the corn, paying especial attention to the core or root, which gives rise to the pain by projecting, thorn-like, into the tender skin.

A very excellent combination is that which is sold under various names as a corn-cure.

R *Acidi salicylici*,.....gr. xl
 Ext. cannabis Ind.,.....gr. xv
 Collodion,.....i℥ ss

M. S.—Apply to the corn every night for a week. Then soak the foot in hot water, and the corn may be scraped out with the finger-nail. A piece of lead-plaster should then be applied.

An old French dancing master, who had danced with Ellsler, informed us that his only remedy was to glue to the corn a piece cut out of a kid glove, and a corresponding piece to the other toe at the point which pressed upon the corn. The kid was to be left until it fell off, and the corn usually came with it. In many succeeding classes of his pupils, this simple remedy had always proved effectual. Inflammation proceeding from a corn will usually subside when the offending body has been removed.

It is highly improbable that corns will occur when properly fitting shoes are worn.

CROUP.

STEINER, speaking of the membranous variety, recommends that children who are predisposed to croup should be subjected to a cautious process of hardening, by cold ablutions to the neck

and chest, begun early in life and carried out persistently. If the clothing be adapted to the age of the child and to the season, it is unnecessary to be too anxious about exposure to fresh air.

Such children should be kept indoors during the prevalence of cold dry winds. When diphtheria is prevalent, the throat should be inspected frequently, and if any indication of the disease be detected the child should at once be isolated.

As soon as an exudation appears it must be treated energetically. He recommends gargles of lime-water diluted to one-half the full strength, or of chlorate of potassa, sixteen grains to the ounce for children, and fifty grains for adults.

If the patients be too young to gargle, the above fluids may be injected into the throat, or the parts may be touched with **lunar caustic**, in substance or in 25 per cent. solution.

As to the special treatment of croup, we have no reliable remedies which directly influence the morbid process.

He condemns the use of leeches, not believing that the abstraction of blood can check inflammation or prevent the exudation.

Cold compresses, frequently changed, should be applied to the neck without interruption, until symptoms of carbonic acid poisoning appear.

He denies the efficacy of calomel.

Emetics are only useful when the glottis is occluded by membranes or muco-pus which cannot be removed by coughing. He prefers **ippecac.** (gr. ij), **tartar emetic** (gr. $\frac{1}{6}$), and sugar, and gives this dose every ten minutes until vomiting occurs. If diarrhea be present he substitutes **sulphate of copper**. Sometimes the emetic will act if administered in wine, even though it has failed when given in water. If the treatment as above detailed fail to improve the condition of the child, if the inflammation continue to advance, and symptoms of carbonic acid poisoning occur, the only resource is **tracheotomy**.

He agrees with the authors who favor an early operation.

The beginning of the third stage—that of asphyxia—is the moment when the operation becomes necessary.

After the operation, the diet should be carefully regulated by the condition of the child. Milk, strong broths, eggs, coffee, light

meats and wheat bread are suitable; but if symptoms of exhaustion be present, wine, rum punch, etc., should be given.

If the course of the disease be checked by the operation, no further medication is requisite. If the fever continue, or pulmonary inflammations supervene, cold compresses or sinapisms should be applied to the chest, and digitalis, veratrum or quinine given internally. If the expectoration cease, or be very profuse, **ipecac.** with ammonia or benzoin should be given. If the discharges be offensive, cinchona with chlorate of potassa or tincture of iron may be used. The respired air should be moistened by placing a wet sponge before the canula. Should severe reaction occur, the sponge may be used as a compress, if frequently changed.

If the edges of the wound become unhealthy, they should be treated with nitrate of silver.

If tracheotomy be not allowed by the parents, the carbonic acid poisoning must be combatted by **stimulants**, such as cold affusions in a warm bath, sinapisms to the breast and calves, musk, or ammonia. These are generally useless, but there is nothing better.

DAVIS gives three grains of **subsulphate of mercury** at once, in well-marked cases. If this fail to produce vomiting in forty-five minutes, he repeats the dose. Directly after the vomiting he gives—

R Syr. scillæ comp.,..... $\frac{3}{4}$ jss
 Syr. ipecacuanhæ,..... $\frac{3}{4}$ ss
 Tinct. opii camph.,..... $\frac{3}{4}$ ij

M. S.—Fifteen to thirty drops every two hours.

If the bowels are not open, he gives two grains each of calomel and bicarbonate of soda, at one dose. These measures are followed by great relief. If this continue twenty-four hours, the crisis of the disease is passed, and the case requires only the continuance of the above prescription. In many cases the relief is temporary, and the dyspnea recurs in three to six hours. When this is the case, he repeats the emetic of turpeth mineral, and keeps the front of the neck covered with cloths wet in an infusion of hops, or aconite leaves, with muriate of ammonia.

In some cases of robust children he uses leeches with benefit, early in the disease.

If a harsh, croupy cough remain after the acute stage has passed, he substitutes tincture of **sanguinaria** for the ipecac. in the formula given, and adds two drachms and a half of **iodide of potassium**.

In membranous croup he begins with a prompt **leeching** and the same emetic recommended above, and a cathartic dose of calomel and soda. The same expectorant mixture should be alternated with alterative doses of **calomel** and **nitrate of potassium**, from one to two hours apart. The emetic should be repeated in from three to six hours, according to the degree of dyspnea. Lactic acid ($\mathfrak{m}$ xv— $\mathfrak{z}$ jss), should be sprayed into the pharynx freely every hour. If the progress of the disease be checked, the emetic may be discontinued, and the other remedies given at longer intervals. After forty-eight hours the calomel may give place to quinine.

If in two or three days symptoms of exhaustion supervene, discard the above remedies and give instead the **lactate of iron** (gr. $\frac{1}{2}$ to j), in solution every two hours, and quinine (gr. j to jss), alternately. Once or twice in the twenty-four hours, if the larynx be obstructed, a quick, free vomiting may be induced by a full dose of **alum** and ipecac. When the strength begins to fail, nourishment should be given as regularly as medicine. Throughout the disease the temperature should be kept uniform at 68° to 70° F.

As to tracheotomy, he has found death result in every case coming under his observation. Still, he recommends the operation, when the results of the other treatment indicate that there is but little chance for success.

LOOMIS recommends the temperature of the room to be kept at 75° to 80° F., and the air to be moistened by steam. A tent may be made over the bed, and steam passed under it from a kettle. During the whole course of treatment, sponges dipped in boiling water and squeezed as dry as possible should be applied over the larynx. When loosened membranes cause dyspnea, an emetic of sulphate of zinc should be given, but not repeated, lest depression ensue.

The most nutritious diet is all-important, and stimulants may be given freely. Before exudation has occurred, thirty grains of **quinine**, in five grain doses, to a child three years old, may be beneficially given to abort the disease.

After the formation of the false membrane, the vapor inhalation and oxygen gas are the only means which offer any hope of saving the patient. He speaks doubtfully of the value of tracheotomy, but concurs with all other authorities in recommending that the operation be done early if at all.

BARTHOLOW speaks approvingly of **lime-water**, applied by the spray continuously, or by the probang frequently. Next to this he places **lactic acid**, as a safe and efficient solvent. It should be added to water until the latter is distinctly sour, and the solution applied by the spray or probang.

Quinine should be given in full doses, five grains every four hours for a child, cinchonism being kept up as fully as possible, with a view of preventing exudation. In alternation with this he gives bromide of ammonium in full doses. The bromides being eliminated by the bronchial mucous membrane are supposed to act locally, besides checking laryngeal spasm. For the latter object he adds chloral to the bromide.

Few have had the temerity to treat membranous croup expectantly, but those who have done so, obtained results not less favorable than those whose course resembles the energetic procedure of one who is treating a case of opium poisoning. And yet it is a most difficult thing to control one's natural desire to be up and doing, in the presence of this terrible disease. The huge doses of quinine recommended are useless after exudation has occurred, and until that has presented itself we do not know that we have really to contend with true croup. The introduction of O'Dwyer's tubes marks a distinct era in the treatment of this disease, as many persons who will not permit tracheotomy will allow the laryngeal tubes to be introduced. It is to be hoped that these valuable instruments will soon be in the hands of every physician in active practice.

Our own experience in croup is not more successful than that of others. Every case operated upon died. The conviction grows

upon us with every case, that more can be done by regulating the heat of the room, impregnating the air with steam, possibly with lime, keeping up the strength in every way possible, giving an emetic only when loose membrane occludes the glottis, and giving *no* other medicine, than by crowding down the throat of the struggling child any of the heroic remedies in vogue.

To this we must add one brief note: Recently the success in the treatment of diphtheria by the use of calomel (gr. x every hour) has been so astonishing, that, the identity of the two diseases being admitted, the inference is strong that the same remedy would prove useful in croup.

DENGUE

ZUELZER says that the treatment is generally begun with an emetic or purgative; then quinine, diaphoretics and warm baths are employed. Others recommend **belladonna** in large doses as very efficacious against the pains in the joints; also strychnine, phosphoric acid and colchicum. Cold baths are also in repute. After the disappearance of the fever, CHRISTIE and others give **iodide of potassium**. For the pains in the limbs, friction with spirituous and stimulating liniments is employed, and chloroform, electricity, tonics, etc., to do away with the great weakness, which often lasts a long time.

FAYRER says that while the disease runs a definite course, judicious treatment mitigates the suffering and aids recovery.

Neither emetics nor purgatives are of any use; but on the contrary they do harm. Laxatives may be used as indicated by the state of the bowels. **Salines**, such as citrate of potassa, with nitrous ether and aconite, are good during the pyrexia. If the temperature be very high (105° to 107°), cold sponging or cold baths are indicated.

Belladonna seems to confer great relief. Ten drops of the tincture may be given every hour for three doses. For the pains and nocturnal restlessness **opiates** are preferred. Tonics and a carefully regulated and nutritious diet are also indicated, and depletive measures must be avoided.

When there is a tendency to relapses, **quinine** in five or ten grain doses may be beneficial in arresting them. Otherwise this drug is useful only as a tonic. Bromide of potash is recommended by some authorities, especially in children with convulsions.

For the irritation of the skin, camphorated oil and warm baths are suggested.

LOOMIS lays stress upon the benefit afforded by anti-rheumatics. The administration of colchicum with spirits of nitre and nitrate of potassa, to produce diaphoresis, with effervescing draughts, will usually afford relief from the pain in the head and limbs. If the arthritic pains persist, opium may be given until relief ensues. **Salicylate of soda** is of great benefit where arthritic pains are severe.

During the remission he gives salines and quinine with an alkali. For convalescence he recommends wine and malt liquors. The lymphatic enlargement should be treated with iodine.

If a single joint remain swollen and tender, long after the subsidence of the fever, an occasional blister is of value.

DAVIS says that since the fact has been recognized that the disease is but little affected by treatment, most physicians pursue an expectant course. He speaks highly of quinine and of salicylic acid.

J. C. WILSON considers it desirable to anticipate elimination by the bowels, by recourse to mild but efficient purgatives. It is not necessary to bring about watery discharges.

For the distressing itching in the latter stages he recommends:—

R Ammon. chlorid.,.....gr. xx
Hydrarg. bichlorid.,.....gr. ½
Mist. amygdalæ,.....fʒ j

M.

BARTHOLOW suggests that the first paroxysm may be shortened by **pilocarpin**.

DIABETES INSIPIDUS.

SENATOR directs attention first to the affections causing the disease, such as syphilis, spinal disease, and hysteria. These should receive appropriate treatment when present.

In light cases he recommends a careful attention to the skin, warm clothing, warm baths, frictions, etc., in order to divert the fluid from the kidneys to the skin.

In severe cases patients may quench their thirst by taking bits of ice and acids, instead of drinking excessively.

Among the remedies to be first used, because harmless, are **valerian**, recommended by TROUSSEAU, and the constant current, which has been employed successfully by KUELZ.

HANDFIELD JONES found valerian efficacious in diminishing the amount of urine, while the convulsions became more violent. **Opium** diminishes the thirst and polyuria, though only temporarily, but, owing to its tendency to disturb the digestion, should only be employed in absolute necessity.

LAYCOCK reported favorably upon **jaborandi**, in a case in which it was tried.

RINGER found jaborandi useless, but **ergotin** efficacious.

LAUDER BRUNTON has but little commendation for any remedy; while admitting that camphor, valerian and valerianate of zinc are sometimes found useful. **Galvanism** may be applied by placing one pole on the nape of the neck, and the other on the loins or epigastrium, or by one pole over the loins and the other pressed deeply into the corresponding hypochondrium, first on one side and then on the other.

ROBERTS recommends the application of a large blister to the nape of the neck or to the epigastrium.

SILVER makes the very sensible suggestion, that to counterbalance the draining of the tissues and the waste, a plentiful supply of fluid, and good nourishing food be given. Strychnine and iron do good by improving the health. In one case, the

whole list of remedies was tried without benefit. In another, change of residence to the seashore was followed by almost complete disappearance of the polyuria.

DIABETES MELLITUS.

SEXATOR emphasizes the cardinal point in the treatment, that the withdrawal of grape-sugar, and of such substances as are converted into grape-sugar on their way to the blood, is to be obtained at any price.

We can nearly attain this object by confining the patient to **animal food**, but this soon becomes repugnant. It is found that green vegetables, such as cabbage, spinach, yellow beets, etc., may often be eaten with impunity; and sometimes milk-sugar and glycerine. Most to be recommended are meat, birds, shell-fish, and fish; then cheese, white of egg, cucumbers, cresses, asparagus, salsify, radishes, and truffles. As a rule, diabetics bear fats well. Acid fruits are generally allowable; also nuts.

Grape and cane-sugar, honey, flour bread, potatoes, pulse, rice, groats, sago, corn, chestnuts and the like, should be avoided as far as possible. Various substitutes for bread have been proposed, such as gluten-bread, almond bread, bread treated with malt, inuline biscuits, and Iceland moss bread; the last being preferable on account of cheapness. SEXATOR condemns KUELZ's recommendation, of taking all the bread allowed at a single meal; as, if but little be used at a time, it may be converted or used up; while a larger quantity would furnish sugar to circulate in the blood and do harm.

Coffee and tea may be allowed. Cocoa-shells are better, but chocolate must be forbidden. Glycerine may be substituted for sugar to sweeten these drinks. Milk need not be withheld. As to alcohol, he has not seen harm result from its moderate use. Preference is given to the red wines: beer, sweet wines and liqueurs being avoided. Koumis is worthy a trial.

The thirst should be resisted as far as possible; ice may be sucked, but acids must be avoided, as they tend to injure the teeth, which are apt to decay early in diabetics.

The diet must be varied, and due regard paid to the patient's

health. Particular attention should be paid to the skin. Warm baths are very serviceable. Warm clothing should be insisted upon, and great care should be shown in avoiding colds; on account of the diminished resistance of these cases, and the tendency to phthisis. Exercise is very useful, but must be carefully regulated in accordance with the strength.

The importance of drugs is far less than that of dietetic regimen. The benefit which nearly always follows the use of **opium** is transitory. It should only be employed when the patient has tired of meat diet, and is compelled to return to mixed food, the bad effects of which may be mitigated by this drug. Pretty large doses should be given, and rapidly increased, until the sugar disappears or is diminished notably. The drug should then be discontinued. Diabetics bear unusually large doses of opium.

From **alkalies** the only good effect which can be expected is that which accrues from their action upon the digestive organs.

Better results have been obtained from the alkaline thermal waters of **Vichy** and **Carlsbad**. It has been found that after using these waters, the effects of a mixed diet are less injurious; while the excretion of sugar is diminished. The good effects of these remedies, like those of all others, are but temporary.

Lactic acid, while not exerting any influence on the disease, deserves some consideration as the only direct substitute for sugar. The benefit derived from the use of **cod-liver oil** is greatly due to the free fatty acids contained in it. Arsenic sometimes really diminishes the amount of sugar, but in other cases fails. Other remedies which have been used with asserted advantage are, tincture of iodine, quinine, eucalyptol, iron and carbolic acid.

BOUCHARDAT'S rules concerning the diet of diabetics are as follows:

1. Eat moderately and slowly; food should be well masticated.
2. As long as the quantity of urine passed in 24 hours exceeds three pints, drink as little as possible.
3. Eat sparingly of liquid foods, such as soups; take your drink in sips; the thirst can sometimes be alleviated by rinsing the mouth with ice-water.

4. Combat thirst by chewing parched corn, roasted coffee or olives.

5. Two meals a day are preferable: one at 10 A. M., the other at 6 P. M. Eschew repose, especially after meals; a good long walk after the repast is beneficial.

6. Never lie down for four hours after the last meal.

7. Abstain from the use of tobacco.

8. Avoid starches and sugars.

9. Abstain from bread, pastry, rice, maize, potatoes, arrow-root, sago, tapioca; the starchy part of vegetables; peas, beans, lentils, nuts, radishes, turnips, carrots, squashes, fruits; especially such as prunes, grapes, figs, bananas, peas, apples, melons; and preserves, as well as acid or saccharine drinks.

10. Wheat or rice flour should not be employed in gravies and sauces, but gluten flour, yolks of eggs, butter or cream should be used instead.

Since BOUCHARDAT first formulated these rules, they have formed the basis of the treatment of diabetes. The same author has the credit of calling attention to the great value of forced exercise in the same disorder.

DUJARDIN-BEAUMETZ says that in grave cases when the skin is dry and harsh, warm baths followed by massage are useful. He calls the **alkalies** the most precious pharmaceutical agents in the treatment of diabetes. He prefers the waters of **Vals** or **Vichy**.

FÉLIZET showed that in some cases, by following the dietetic regimen of BOUCHARDAT and the alkaline medication, by **bromide of potassium**, one may entirely free the urine of sugar. Great depression, however, follows the use of this drug.

FOTHERGILL speaks in high terms of **buttermilk** as a staple article of the diet. It may be replaced by, or alternate with, skimmed milk, whey, or koumiss.

The waters of **Waukesha** have been highly recommended for this disease. In many cases their use is followed by the same marked relief seen after other alkalies are given; but in no case is the improvement permanent. The results of dietetic treatment have rendered diabetes a much less formidable disease than

formerly. While complete and permanent cure is not to be looked for, skilful management will very often prolong life to the limit which would probably have been reached were the diabetes not present.

Unwise drugging is to be deprecated.

DR. AUSTIN FLINT considers diabetes curable by means of a strict adherence to diet, and the use of Clement's solution of **bromide of arsenic**. DR. LOUIS LEWIS has had success with the same treatment.

DIARRHEA.

OLIVER advises that food should be taken in small quantities, and tepid or cold, but never hot. Farinacea are useful, taken with milk, chicken or mutton broth, or beef tea. Animal broths are apt to aggravate diarrhea. Mucilaginous and astringent drinks may be given. Brandy with spices is often of service, also lime-water with milk.

Rest in bed secures uniform warmth of the skin, and favors the cessation of diarrhea.

In children, errors of feeding should be corrected. The abdomen should be protected by a flannel bandage, and the feet and legs by warm clothing. As in chronic diarrhea the flux is perpetuated by the debility and anemia which it induces, a leading principle is to prescribe food rich in formative materials, and such as is digested wholly in the stomach. Animal food, raw or lightly cooked, with pepsin and hydrochloric acid, gives happy results. The treatment by **raw meat** has been successfully applied to nearly every form of chronic diarrhea, and especially to that which occurs after weaning. It is best to begin with a small quantity and gradually increase it. The meat may be pounded to a pulp, minced, mixed with salt, sugar, fruit jelly, conserve of roses, or diffused through clear gravy, soup, or chocolate made with water or wine. The only drink allowable is water containing the white of egg. Trousseau found opium in small doses, chalk and bismuth, at or between meals, to assist this regimen.

When the flux is moderate and salutary, removing undigested

materials or irritating secretions, relieving an engorged portal vein, or supplementing a suppressed secretion, it may be let alone, or encouraged by laxatives; it cannot be checked without risk. As a rule, the treatment of diarrhea should begin by removing irritating substances from the alimentary canal, by aperients guarded by small doses of opium: while astringents are held in reserve.

Castor oil is best for children or adults. In choleraic diarrhea the best results are obtained from castor oil and laudanum at the commencement, while astringents are used later, when the stools are copious and watery, griping and tympanites absent, and the tongue clean. Vomiting should be encouraged by drinking warm water. In children when the motions are colorless, profuse and incessant, it is best to give **mercury with chalk** in small doses every hour or two, and a very small enema of starch, containing acetate of lead or sulphate of copper, with laudanum. If the case be urgent, give **logwood**. In the cold stage, mustard baths, emetics, stimulants and mercurials have been recommended,—in the stage of reaction, saline aperients, or calomel.

In nervous diarrhea the first indication is to allay reflex excitability by giving the **bromides**, or, if these fail, opium. If diarrhea be excited by food, the dose should be given shortly before meals.

In lenteric diarrhea **arsenic** is invaluable. Indigestion calls for hydrochloric acid, &c.

In vicarious diarrhea the skin should be excited to action by vapor baths; in kidney disease counter-irritation about the loins, **digitalis** and nitre are indicated. The diarrhea should not be checked unless it is profuse or exhausting; especially after the skin and kidneys are acting. Diarrhea from passive congestion of the portal vein demands treatment for the cause. Chronic diarrhea cannot as a rule be stopped by astringents alone. The general health must be restored and anemia removed. The secretions will then improve and the diarrhea subside.

Tonics may be given with astringents. **Ipecacuanha** and **taraxacum** are useful when the skin and liver are inactive; from one to three grains of ipecac. being given night and morning. **Podophyllin**, gr. $\frac{1}{2}$, should be given four times a day, when the motions are watery, pale or high-colored, and passed with severe

cutting pains. Small doses of **salines** should be taken in the early morning, in a little water.

The colliquative diarrhea of hectic is best met by hæmatoxy-lon and sulphuric acid, or opium with the salts of silver, copper or lead.

FOTHERGILL recommends for the diarrhea of infants, **castor oil**, followed by alkalies to prevent the formation of caseous masses. Condensed milk may often be advantageously mixed with lime water.

For diarrhea resulting from a chill, he advises a dose of **opium**. If there be follicular ulceration of the bowels, and each motion is preceded by severe griping pains, ceasing after the evacuation of the acrid and offensive stool, he gives—

℞	Cretæ prep.,.....	gr. xv
	Tinct. catechu.,.....	f 3 ss
	Tinct. opii,.....	℥ x
	Aq. cinnam.,.....	f 3 j

M. S.—To be taken after each motion.

When the motions are loose and copious, he prefers—

℞	Tinct. opii,.....	℥ x
	Acid. sulphurici dil.,.....	℥ xx
	Infus. hæmatoxyli,.....	f 3 j

M. S.—Take four to six times a day.

Enemata of starch and opium are often very useful and grateful to the patient, especially when there is follicular ulceration. Very often it is wise to add to the above treatment, a powder at bedtime, consisting of compound kino powder and bismuth, ten grains each. In some cases of persistent looseness not amounting to diarrhea, **bismuth** and **myrrh** are useful. In nervous diarrhea, coming on when the patient is about to start on a journey, he recommends that the bowels be well opened the preceding day with rhubarb, and a dose of bismuth or myrrh be given at bedtime. To such persons **bromide of potassium**, with some vegetable tonic or chalybeate may be given. The same remedy is recommended for reflex diarrhea, occurring during pregnancy, &c.

BARTHOLOW recommends a pill of opium and camphor for simple acute diarrhea.

In summer diarrhea the most efficient treatment is the use of a mineral acid with laudanum. Alkalies may sometimes do better, but they merely neutralize acids, while the latter stop the fermentation on which the production of acids depends. When the discharges are like spinach, he gives one drop of Fowler's solution, with one or two drops of the deodorized tincture of opium. Retention of irritant matters calls for **castor oil**, with two or three drops of turpentine and a little laudanum. In chronic cases he gives **sulphate of copper**, gr. $\frac{1}{24}$, with morphine, gr. $\frac{1}{40}$ to $\frac{1}{6}$, according to age.

Bismuth is the best astringent for children.

(For the treatment of diarrhea in children, see the article on cholera infantum. See also the article on cholera morbus, for the treatment of cases occurring suddenly, with choleraic symptoms.)

In general it may be said that ordinary diarrheas get well if a dose of castor oil be given, with ten drops of laudanum, and the patient be confined to his room, with the diet limited to stomach food. Astringents are not required unless the discharges continue profuse too long, or are obviously weakening the patient. In such cases the following formula will be found effectual:

R Tinct. opii deod.,.....f 3 ij
 Acid. sulph. arom.,.....f 3 iv
 Ext. hæmatox. fl.,... f 3 xvij

M. S.—A teaspoonful in water after each passage.

Diarrhea from disease of the kidneys is an indication for diuretics, and will usually be relieved by giving **acetate of potassa**. The occurrence of lenteric diarrhea, when the taking of food or drink causes uneasy sensations and pain until the bowels are moved, should attract our attention to the kidneys; as such a condition frequently attends albuminuria. Small doses of calomel and of arsenic have been recommended for this form of diarrhea, but have proved useless. Sometimes **quinine** has done good; diuretics relieve promptly if the kidneys be at fault, but the best remedy is **cocaine**, in doses of $\frac{1}{8}$ to $\frac{1}{2}$ grain, shortly before each meal.

Diarrheas due to catching cold are greatly benefited by giving the patient a hot mustard foot-bath, and wrapping up warm in

bed, after drinking a large bowl of hot ginger tea. The occurrence of free perspiration is followed by a cessation of the discharges.

For the diarrhea of tubercular ulceration the best remedy is **silver**, either the nitrate or the oxide. Next to this comes bismuth; which is an excellent remedy also in the diarrhea of typhoid fever.

For chronic diarrhea we have nothing to add to the preceding, except to call attention to the value of **hydrastis**. We give this drug in half-drachm doses of the tincture, diluted, before each meal.

DIPHTHERIA.

MORELL MACKENZIE lays stress upon the importance of sustaining the patient's strength, especially during the night, when the powers of life run low. Nourishment must be secured in spite of every difficulty. **Alcohol** should be given in small quantities in the early stages. Some cases require large doses from the first. Failure of the heart is the signal for the unsparing use of this drug.

Of recuperative agents, iron and quinine are the best. **Iron** should be given often and in large doses. Thirty minims of the tincture may be given to adults every two hours, and proportionate doses to children. The general effect is often extremely favorable, and its [local] influence is equally well marked, the soreness being much relieved by each dose.

The special indications for **quinine** are headache, with high temperature, vomiting and the symptoms of septic poisoning. In such cases the drug should be given in full doses, for not more than forty-eight hours. Quinine is best suited to the convalescent stage, as a rule. Morphine and chloral are sometimes added to procure sleep.

As to specifics, mercury, etc., he takes decidedly strong ground against them. Of the antiseptics, the weight of evidence is strongly in favor of **chlorate of potassa**. Ten to twenty grains should be given every two hours. Sulpho-carbolate of soda and salicylic acid are also mentioned as having been used with "apparent advantage."

Caustics and astringents he lays aside.

Of the solvents, **lactic acid** is the best, and should be applied to the false membrane with a brush.

Antiseptics are very useful. The best are carbolic acid, gr. iij to $\bar{3}$ j, permanganate of potassa, gr. v to $\bar{3}$ j, solution of chlorinated soda, $\bar{3}$ iv to $\bar{3}$ x, or chlorate of potassa in any strength. Chloral, gr. xxv to $\bar{3}$ j has also been recommended. One of these solutions should be perseveringly employed as a gargle, spray or mouth-wash, in every case where there is much false membrane. While they prevent fetor, they have no restraining influence on the exudative process. Another local remedy is tolu, one part, dissolved in ether, four parts. In many cases great comfort will be derived from sucking **ice**; as well as from using it externally. So, also, the pain is greatly relieved by hot fomentations; while **steam** inhalations exercise a favorable influence on the local process. The steam may be medicated with carbolic acid, etc. For children who cannot use an inhaler, a croup tent may be utilized.

To summarize: A child attacked by sore throat during an epidemic of diphtheria, should be put to bed in a large, well-ventilated room, and should be made to suck ice constantly, while a bladder of ice should be applied to the neck. A diet of beef-tea, eggs, etc., should be ordered, and stimulants as a rule, from the first. If there be evidence of primary blood-poisoning, twenty to thirty drops of tincture of iron, with glycerine, and ten grains of chlorate of potassa, should be given every three hours; if catarrhal symptoms predominate, a capsule of copaiba, $\mathfrak{m}$ iv, should be given every four hours. The throat should be sprayed with lactic acid solution, one part to eight of water, every two hours. If the disease still advance, the membrane should be painted with the ethereal solution of tolu, the surface first being dried. This may be done twice a day. Ice should now be given up, and warm anti-septic inhalations used continuously. At this period the sulpho-carbolates sometimes have a wonderful effect; and quinine in large doses may also be given with advantage.

The impaired innervation of the lungs should be prevented by the use of food and stimulants. During convalescence the strength must be carefully nursed back, and tonics, food, sea-air, etc., should be employed. Palsy of the pharynx may require the use of the stomach tube.

LOOMIS keeps the patient in bed till convalescence is fully established, and the pulse is normal in force and frequency. The utmost care should be used in keeping patient, surroundings and all utensils strictly anti-septic. He disapproves of the local use of ice, and of counter-irritants, of escharotics, of astringents, and of removal of the membrane.

He looks with much favor upon the hastening of suppuration by the use of **steam** inhalations, medicated as recommended by Mackenzie.

Internally he gives **brandy**, one-half to one drachm every hour. The beneficial effect will be shown by the pulse becoming slower and steadier, by increased appetite, and by general improvement. An intermittent and irregular pulse demands the freest stimulation. Increasing apathy, a feeble pulse, irregular at times, a dry tongue, a dark and offensive exudation, often indicate a crisis which may be tided over by crowding stimulants.

If there be dysphagia, feeding per rectum may be employed. When the temperature ranges high, **quinine** and cold sponging are indicated. Iron and chlorate of potassa are the remedies most generally in use. If nutrition be kept at a high standard and tonics be used persistently, the paralytic sequelæ will not be very tedious. **Porter** is one of the best tonics in the treatment of the sequelæ.

DAVIS recommends the aqueous solution of **iodine**, chlorate of potassa and benzoate of sodium, to arrest infection; and **quinine**, iron, strychnine, pure air and nourishment, to increase tone and general vitality. He pays close attention to the excretory organs, as he always does in treating any disease. He objects to alcohol, claiming that the toleration of this drug exhibited in diphtheria is simply due to the inability of the system to respond to the stimulus applied. He does not find proof of the utility of local antisepsis, in the history of the various epidemics which have come under his notice. For simple diphtheria of a mild form, he has used the following formula for many years:

R Potass. chlorat.,..... $\mathfrak{z}$ ijs
 Acid. hydrochlorici,..... $\mathfrak{f}\mathfrak{z}$ j
 Tinct. belladon.,..... $\mathfrak{f}\mathfrak{z}$ ijs
 Aquæ,..... $\mathfrak{f}\mathfrak{z}$ viij

M. S.— $\mathfrak{f}\mathfrak{z}$ ss to $\mathfrak{f}\mathfrak{z}$ ij every two hours without further dilution.

In severe cases he substitutes, after three days, three small doses of calomel, and the following:

R Iodi, gr. v
 Potas. iodidi, ʒ ss
 Aquæ, f ʒ jss

M. S.—To be given in suitable doses every six hours.

If the glands at the angle of the jaw be swollen externally, he applies cloths wet with:

R Aconiti fol., ʒ j
 Ammonie chlor., ʒ ss
 Aquæ bullient., O ij

M.

If it be difficult to keep the cloths applied properly, he substitutes:

R Olei olivæ, ʒ iij
 Olei terebinthinæ, ʒ ss
 Chloroformi, ʒ ss

M. S.—Apply to all the swollen parts every three hours.

This treatment should be continued throughout, unless fetor supervene, when he substitutes quinine and **iron** in moderate doses frequently repeated. Extensive ulceration, gangrene or offensive nasal discharge calls for the addition of carbonate of ammonium and camphor, with nutritive enemata. Further support may be afforded by inunctions of **cod liver oil** with a little **strychnine** (gr. iij to O ij). Nearly the whole body may be anointed with this oil three times a day.

In cases which present a very malignant aspect from the first, he begins with **quinine** and **iron**, alternating with carbonate of ammonia and camphor; and applies the cod liver oil to the whole body freely, with a little iodine added to it the first day, and the strychnine on the next and subsequently. For the chlorate of potassa, he has lately substituted **benzoate of soda**, giving five grains to an adult every two hours. It seems to limit the exudation, and is suited to active and sthenic cases.

In the second stage, if the nasal discharge become irritative, he has the nostrils syringed out with a weak solution of **carbolic acid**.

If an anodyne be needed at bed time, he gives Dover's powder, gr. v, and camphor, gr. ij, to an adult.

BARTHOLOW does not present any specific points in the treatment of diphtheria which have not been mentioned, except the insufflation of **sulphur**, the very frequent atomization of a "maximum" (?) solution of muriate of quinine, and the administration of bromide of ammonium. He favors the use of alcohol in large quantities.

Some points in the foregoing resumé, require comment. Prof. Davis' position on the question of giving alcohol is untenable. If the tolerance of this drug be due to the lowered sensibility of the child, by which its powers of responding to the stimulant are lessened, we should see the toxic effects of the alcohol produced more readily than when it is given in health. That this is not the case is a matter of universal observation by physicians everywhere. Whether it be as a substitute for food, as an arrester of metamorphosis, or as a direct and powerful germicide, or all three, it is certain that the free use of alcohol is attended with the best results.

The beneficial effects of sulphur are explained by Bartholow as due to its partial conversion into sulphurous acid. If this were true, why not apply the latter agent at once to the diseased tissues, instead of relying on the irregular and doubtful result of such a chemical experiment?

The treatment of diphtheria must depend greatly on the view taken of its local or constitutional origin. If it be a systemic disease from the first, local treatment is unimportant; while if the affection begin as a strictly local one, our efforts should be directed to the prompt destruction of the germs before they have had time to burrow into the mucous membrane.

I am firmly convinced that the latter opinion is the true one. This being admitted, the question comes up, what is the most reliable agent for local use in the early stage?

After trying every local application which has come to my notice, I have found none to compare in efficiency to **nascent chlorine**.

My formula is as follows:

℞ Potas. chlorat. pulv.,.....3 j
Acid. hydrochlorici., U. S. P.,.....f 3 jss

Misce et adde,

Tinct. ferri chlorid.,.....f 3 ij

Aquæ, q. s. ad,..... f 3 iv

S.—A teaspoonful to be taken undiluted, every two to four hours.

L

An experience of twelve years with this prescription, and in many cases, has confirmed my faith in it. I have many times been called when one child in a family was beyond all human aid, and have by this remedy stopped the disease as fast as it made its appearance in the throats of other members of the same household. The following case will illustrate its remarkable powers as compared with other antiseptics now in vogue: A boy eight years of age was seized with diphtheria. He was unusually rebellious as to taking medicine, and as he suffered but little with the disease at first, could not be induced to use the remedy. Accordingly I substituted a solution of corrosive sublimate, one part to five hundred. (German authors recommend one part to two thousand.) During two days the exudation slowly increased in extent, creeping back to the posterior wall of the pharynx, and appearing on the other tonsil. The sublimate was evidently ineffectual in checking the advance of the disease, though the membrane did not increase in thickness.

The mother then suggested that the child might take the chlorine, if syrup of sarsaparilla were used as an excipient instead of water. I acted on this hint, and the boy took the mixture readily. Improvement was manifest from the first dose, and in twenty-four hours the exudation had disappeared.

In some cases this preparation gives rise to pain in the stomach or ardor urinæ. I then direct the patient to take a small quantity of soda before each dose of the medicine. In all cases it is well to take a little water immediately before the medicine, in order to avoid irritation of the stomach; but when the remedy itself is diluted, much of its effectiveness is lost.

I cannot say that all cases of pharyngeal diphtheria will recover under this treatment. Some will die in spite of it. When the bacteria have migrated deeply into the soft tissues of the pharynx, it is obviously beyond the power of local remedies to destroy them. This emphasizes the necessity for prompt and vigorous treatment at the beginning of the disease; and the results of clinical experience fully bear out this view.

When the disease begins to invade the nasal passages, as soon as the first sign of coryza appears, I direct the nostrils to be washed out with a solution of nitrate of silver, five grains to the

ounce. This should be repeated every four hours until the coryza disappears.

If the nasal affection has progressed until hemorrhage occurs, chromic acid should be substituted for the silver salt, in the same proportion.

When the larynx is invaded, the condition of the child is desperate. I once asked one of the greatest living laryngologists what was the best thing he could tell me about laryngeal diphtheria. He replied, "My best word is, may the Lord keep me from ever seeing another case!"

Intubation of the larynx offers the great advantage over tracheotomy, of presenting no open wound for systemic infection.

This alone is enough to decide us in favor of O'Dwyer's tubes; to say nothing of their ease of introduction, the avoidance of shock, and the possibility of obtaining the parents' consent much earlier than it would be given for tracheotomy.

Dr. Judd has informed me that in cases of profound systemic infection with diphtheria, which are usually considered hopeless, he has had remarkable success from the use of **calomel**. To an adult, ten grains are given every half hour, and continued until spinach-colored stools are produced.

The use of calomel has been discarded long since Bretonneau first recommended it, but in such desperate cases, the fact that *any* recovered under its use, warrants us in giving due consideration to its claims.

In conclusion, *support* the patient, in every possible way. Rich, but easily digested food, alcohol pushed with an unsparing hand when requisite, quinine suppositories, cod-liver oil or alcohol baths, and rectal injections of digested food, should be considered of as vital importance as any other part of the treatment, except the germicide.

(W. F. W.)

DROPSY.

LAUDER BRUNTON says that the first thing to be considered is the removal of the cause. Where the dropsy is due to obstruction of a vein, we must hinder the accumulation of fluid by elevating the part, while we try to aid absorption by gentle upward friction.

Where it is due to obstruction of the circulation in the lungs, we must diminish this by inhalations, emetics, and expectorants, pushed if necessary so far as to cause nausea or even vomiting. Where the obstruction is due to heart disease, we must aid the organ to contract more powerfully, by the use of cardiac stimulants, such as alcohol and digitalis. When digitalis alone does not succeed, the addition of squill and of a small quantity of blue pill frequently increases its efficacy.

Digitalis succeeds best in dropsy caused by valvular disease or dilatation of the heart. It is not so useful in dropsy arising from renal disease, and here other diuretics are preferable. One of the best is spirits of juniper, given either as a mixture or in the form of Holland gin. Spirits of nitrous ether, nitre, bitartrate of potassa and broom, are useful in all forms of dropsy. **Copaiba** occasionally succeeds where other diuretics fail. It seems to be most successful in dropsy due to cirrhosis of the liver. Hydragogue cathartics, such as compound jalap powder, elaterium, etc., which cause copious watery secretion from the intestines, supplement the action of diuretics, and by removing water from the body, as well as altering its nutrition, relieve or remove dropsy. In some cases of Bright's disease, considerable relief has been obtained by the profuse sweating induced by vapor baths, hot-air baths, jaborandi, or **pilocarpin**. When the dropsy does not yield to other remedies, the fluid must be removed, by paracentesis in the case of serous cavities, and by very small superficial incisions or punctures, or by the insertion of very fine trocars with drainage-tubes attached, in the case of the limbs.

In Anasarca it is but rarely necessary to treat the symptom; the primary disease furnishing the indications for treatment. While diuretics, hydragogues and diaphoretics, especially **jaborandi**, will rapidly reduce the dropsy, the general strength will be reduced to a still greater extent; so that more is lost than gained. (See the article on Ascites).

Small doses of the salines combined with iron, help to keep the effusion in check, and at the same time keep up the consistency of the blood.

DUODENAL CATARRH.

DAVIS says that the treatment which he has found most efficient for these cases, is as follows: If the bowels have not moved for twenty-four hours, he gives citrate of magnesia, or the sulphate of magnesia, to procure a moderate movement of the bowels. This is done for the purpose of freeing the alimentary canal from accumulations of feces, although these remedies have also some influence in depleting the vessels of the mucous membrane. If the bowels, however, have been moved sufficiently, he gives five grains of Dover's powder, and an equal quantity of nitrate of potassium. Sometimes he adds to this a grain of calomel, but more frequently it is omitted. If the latter be added, it is only to the first four doses. One of these powders is given every four hours, until four to six have been taken. In the meantime the patient is kept at rest, taking only liquid nourishment, such as beef-tea, oatmeal gruel, sometimes milk, or milk with lime-water; and at the end of this time, he administers another mild saline laxative. In the large proportion of cases, the evacuations following this laxative will be freely colored by the presence of bile. If so, it is almost always the case, that all disagreeable symptoms are decidedly relieved.

By giving one of the same powders morning and evening for two subsequent days, and a mild laxative when required, the patient will reach the beginning of convalescence. But in more severe cases, there will be no appearance of bile in the evacuations, and only a moderate lessening of the fulness, heaviness, and distress in the epigastrium. If such is the case, instead of giving the powders subsequent to this, every morning and evening, repeat them at the same intervals as at first; namely, once in four or five hours, at the same time putting fomentations over the epigastric region, either by poultices, or by cloths wet in warm water or in some warm narcotic infusion.

In cases of more decided severity, he applies a blister over the most tender part of the abdomen. After this, simply keeping the bowels soluble, so as to have them move once or at most twice in the twenty-four hours, carefully guarding against excessive purging, and if the urine be still scanty, giving a mixture of liquor ammoniæ acetatis and nitrous ether, in doses of a

teaspoonful diluted with water, three or four times a day, will be sufficient to conduct the patient to convalescence. One of the most obstinate cases finally recovered under the continuous use, for three weeks, of the following:—

R.	Ammon. chlor.,.....	3 ijs
	Hydrarg. bichlor.,.....	gr. iij
	Syr. glycyrrhiz.,	f 3 iij
M. S.—f	3j, three times a day.	

Two patients recovered under the influences of moderate doses of the sub-nitrate of bismuth, bicarbonate of soda, and a small proportion of the compound powder of opium and ipecacuanha, with an occasional laxative to move the bowels. In some of these cases of a chronic character, counter-irritation by the application of a combination of croton oil, tincture of iodine and ether applied over the epigastrium, appeared to do good.

BARTHOLOW says that the most rapid progress can be made by adhering to an exclusive diet of milk; and as there is complete anorexia, this is usually not difficult. The hyperemia is relieved by saline laxatives, but especially by phosphate of soda; which should be given in drachm doses, about four times a day. Other remedies acting similarly, are sulphate of magnesia and bitartrate of potassa. The general principle is to use remedies which will promote an outward osmotic flow, and thus relieve the congestion and œdema of the mucous membrane. Mercurials are not beneficial. Active cholagogues, as the resin of podophyllin, rhubarb, aloes, etc., are to be avoided on account of the irritation which they induce.

To rouse the liver—a favorite phrase—is out of place here, since the obstacles to the outflow of bile are merely mechanical. When malarial infection coëxists, quinia is indispensable to restore health. Without any complication of malaria, quinia has a good effect, and hastens the disappearance of the jaundice. When the bile enters the intestine, and the intestinal digestion is restored, the jaundice may still linger. Diuretics and purgatives may then be employed to remove the last traces of bile-pigment.

Complete abstinence from food, and the use of weak alkaline waters, taken as hot as can be swallowed, with sinapisms or

iodine applied to the epigastrium, usually suffice in milder cases. If jaundice supervene, the distressing itching will be alleviated by warm alkaline baths; especially those containing an ounce of **salicylate of soda** to every ten gallons of water. In severe cases the same treatment should be employed, with the addition of **phosphate of soda** in thirty-grain doses, every four hours, in hot water. Rectal feeding should be resorted to, in order that the duodenum shall have complete rest. Small doses of **morphine** give the greatest relief. Great tenderness in the epigastrium calls for the employment of leeches or hot fomentations, with turpentine.

If the case threaten to become chronic, five grains of **chloride of ammonium** should be added to the phosphate of soda and after the acute symptoms have subsided, **hydrastis** will assist materially in restoring the bowels to a healthy condition. This should be given in doses of not more than thirty drops of the tincture, four times daily. Throughout the disease and the period of convalescence, the patient must avoid pork, veal, fried food and fats; as well as all articles which may mechanically irritate the sensitive mucous membrane, such as grape-seeds. As the disease is frequently due to catching cold, this should be avoided by wearing flannels, woolen stockings, a flannel bandage covering the abdomen, etc.

DYSENTERY.

EWART says:—Should an aperient be required, the readiest, simplest and most painless, is a tepid water enema of from two to four pints. After the operation of the enema, or whenever the patient presents himself in those cases where no preliminary aperient is indicated, a turpentine epithem or mustard plaster should be applied to the epigastrium for twenty minutes. At the same time from twenty grains to a drachm of **ipecacuanha**, suspended in two drachms of syrup of orange-peel and four drachms of water, should be administered. The recumbent posture, with the head lower than usual, should be enforced. Liquids should be resisted as much as possible for an hour or two. Thirst may be quenched by sucking pieces of ice, or when this cannot be procured, by water in teaspoonful doses at a time.

Nausea will probably occur; perhaps in some cases, retching and vomiting. But as the vomiting is exceptional, and when it does occur, seldom happens before the lapse of an hour after the exhibition of the drug, the ejected matter usually consists simply of small quantities of gastric secretion. Should the ipecacuanha be rejected, the dose should be repeated as soon as the stomach has been tranquilised. It will be found beneficial to time the large doses, so as to allow of one being given night and morning, so long as their use is considered necessary. The signal for the relinquishment of these doses is freedom from tormina and tenesmus, with the occurrence of refreshing sleep, feculent, bilious, or ipecacuanha stools, and restoration of the primary processes of assimilation. If no great amount of disorganisation of the mucous membrane have taken place, these favorable changes are frequently noticed after the administration of the first or second dose, and even if undoubted ulceration has set in, they are generally discerned on the second or third day, or earlier. In either case the drug should be abandoned, as the disappearance of the tormina and tenesmus, and the absence of mucus, blood, and slime from the stools, indicate the cessation of dysenteric inflammation, and that the affected portions of the bowel have been placed in the most favorable condition to undergo cure by 'resolution' if the case have not proceeded to ulceration, or by 'granulation and cicatrization' if ulceration or even sloughing have already taken place. Chalk mixture, with hyoseyamus and astringents, is now quite sufficient to wind up the cure. In some cases ferruginous and bitter tonics are demanded to give tone to the digestive organs, and to improve the condition of the blood. **Counter-irritation** by means of turpentine epithems and mustard plasters to the abdomen, or fomentations, are valuable adjuncts in the management of the disease.

The diet should consist of chicken broth, beef tea, essences of chicken, mutton, or beef; sago, arrow-root, or tapioca, and small quantities of wine or brandy. During the active period of the disease, all food should be given in a liquid form. The disturbing effect of the ipecacuanha given as above directed, is only temporary. Abundance of time is therefore available between the large doses, for the digestion and assimilation of liquid food. As

the stools become more feculent and consistent, solid food in the shape of tender chicken, lamb and mutton, with biscuit and bread, and light sago, rice, or tapioca pudding should be allowed. Potatoes and other vegetables should be avoided until the tone of the digestive system has been fully re-established. When the dysentery is complicated with a purpuric or scorbutic condition of the blood, the administration of the juice of the grape, orange, pomegranate, lime, and bael sherbet, are essentially necessary as dietetic rather than therapeutic agents.

Opium by the mouth is seldom required. When swallowed it "locks up" the secretions of the liver, pancreas and alimentary mucous membrane, rather favoring than reducing the inflammation of the solitary and tubular glands. When dysentery occurs in pregnant women, large doses of ipecacuanha are not contra-indicated. In dysentery complicated with pregnancy, opiate enemata to relieve irritation in the rectum are more essential and permissible than under other circumstances. In the acute dysentery of children ipecacuanha is invaluable. For a child of six months a grain, and for a child of one year two grains, should be given with an equal quantity of carbonate of soda, night and morning, until the tormina, tenesmus, and slimy, bloody stools are replaced by relief from pain and by feculent evacuations. It will not often be necessary to continue the drug beyond two or three days at a time. But it should be recollected that the disease adheres with greater tenacity to children than to adults; and although we observe that ipecacuanha has an immediately beneficial effect in diminishing the blood, mucus, slime and frequent stools, still we find that dysenteric or slimy motions with undigested food continue to pass. In that case the ipecacuanha, combined with chalk, bismuth, carbonate of soda, or aromatic powder, should be repeated once or twice a day for a certain period, till healthy evacuations are restored.

The gums must be lanced when necessary; turpentine liniments or stupes may be applied to the abdomen; weak chicken-broth or arrowroot should be temporarily substituted for milk; and, above all, food must be given in small quantities at a time, and at regularly stated periods.

From the age of one year the dose of ipecacuanha is regulated

by adding one grain for each year up to eighteen, when the doses indicated for adults should be employed.

Where malaria pervades the system, **quinine** is indispensable. Twenty grains may be given in water with a little sulphuric acid, one hour before giving the first dose of ipecacuanha. Ten grain doses should be given midway between the large doses of ipecacuanha, or during the apyrexia, until the fever has subsided. The mildest miasmatic febrile reaction will bring back the dysenteric symptoms. When ipecacuanha fails to preserve the life of the patient, its failure may be attributed to abscess of the liver, malaria, enlargement of the liver and spleen, incurable cachexia, Addison's disease, tuberculosis, scrofula of the mesenteric glands, peritonitis, or gangrene.

When dysentery becomes chronic, no time should be lost in removing to a non-malarial and mild climate. A sea-voyage, on a steamer, is often attended by the happiest results. The clothing should be warm and flannels should be worn around the abdomen. Maclean recommends the use of a **water-belt** over the abdomen for some hours daily. If there be much uneasiness about the fundament, a water compress over the anus affords more relief than an opiate enema. The food should be chiefly concentrated soups, milk and lime-water, sago, corn-flour, arrowroot; egg-flips, with port, sherry, or brandy; or, if solid food can be digested, the tenderest chicken, lamb, or mutton, with bread and biscuit, may be allowed. Beyond airing in a carriage, no exercise should be attempted. The position should be recumbent, as the erect posture excites peristaltic action and interferes with physiological rest. All forms of counter-irritation are useful.

Gallie acid, acetate of lead, sulphate of copper, and nitrate of silver, are reputed to act beneficially. Maclean's favorite remedy is the **pernitrate of iron**. As nearly all chronic cases have a malarial taint, quinine should form a part of the management. Bathing is an efficient auxiliary during convalescence. Tepid or warm baths with sea-salt or nitro-muriatic acid stimulate the secreting function of the skin.

But it will often happen that in spite of the most careful treatment, no substantial progress will be made towards repair of the ulcers, and the patient dies, worn out by suffering.

LOOMIS thinks that the stools should be immediately disinfected, as in typhoid fever. The patient must be kept in bed and the bowels cleared by a dose of castor oil. The diet should be of milk, with light meat broths. If at the outset there be much tenesmus, several leeches about the anus will give great relief. **Opium** should be given to semi-narcotism. It is directly narcotic, sedative and astringent; and it controls the inflammatory process by its action on the sympathetic nervous system. If the rectum be chiefly involved, it is best to administer laudanum by enema; but if the temperature be high and the tenesmus intense, the rectal use of opium is contra-indicated.

In such cases **ipecacuanha** has been found most efficacious. He gives one-fourth of a grain every half-hour, with sufficient morphine hypodermically to relieve pain and restlessness. Ipecacuanha is markedly beneficial in children, when combined with bismuth, chalk or soda.

Hot fomentations to the abdomen are always beneficial.

In chronic dysentery he has obtained the most benefit from **cod-liver oil** and **pernitrate of iron**, long continued.

BARTHOLOW, in mild cases, gives **sulphate of magnesia**, 3 ij, with twenty minims of dilute sulphuric acid every two hours until the bowels have been emptied.

The pain and tenesmus may then be relieved by **morphine** hypodermically. If there be much tenderness, an ice-bag or warm fomentations should be applied over the descending colon.

In chronic catarrh he advises topical medication, with solutions of **tannic acid**, gr. xx to water fl. 3 iv, or of **hydrastis** or **rhatany**; but if ulceration exist he prefers **nitrate of silver**, gr. iv-xx to fl. 3 j. of water. This should be injected through a tube up to the sigmoid flexure. The bowels must be kept in a soluble condition. Fermentation should be prevented by hot enemata, twice daily. If the digestion be feeble, **nux vomica** and pepsin with mineral acids should be given. Excellent results are obtained by the use of **corrosive sublimate**, gr. $\frac{1}{40}$, or Fowler's solution, gtt. ij, thrice daily.

In severe, inflammatory cases, he also recommends sulphate of magnesia; following BRETONNEAU and TROUSSEAU.

Ipecacuanha he limits to the first stage, while the mucous membrane is still intact. Its utility ceases with the occurrence of ipecacuanha stools. It is signally beneficial in puerperal dysentery. He gives a scruple every four hours in milk. Next to this he places castor oil. After the bowels have been emptied, he recommends emulsions of almond oil and turpentine, combined with opium if the pain be severe.

When destruction of the mucous membrane begins, the most effective remedies are the mineral salts; the best being those of copper and arsenic. He has had excellent results from the use of one drop of Fowler's solution, and five to twenty drops of deodorized tincture of opium, every three hours. He also puts much emphasis on the value of nitrate of silver enemata. A tube which is not acted on by the silver salt, is passed up to the sigmoid flexure; the patient lying on the right side, with the thighs flexed and the hips elevated. Eight ounces of the solution (containing twenty to sixty grains to the ounce) should be injected. The silver is so rapidly converted into a chloride, that no danger is to be apprehended from this enormous quantity of the drug.

In the dysentery of children, STARR begins the treatment with the ordinary mixture of castor oil and laudanum. If there should be no marked improvement in one day, he substitutes—

℞ Pulv. ipecac. comp.,.....gr. vj
Bismuth. subcarb.,.....3 j
Pulv. aromat.,.....gr. vj

M. et in chart. no. xij div.

S.—One every three hours.

He gives also an enema of three drops of laudanum every four hours, or the following suppository:

℞ Pulv. opii,.....gr. ss
Plumbi acetat.,.....gr. j
Ol. theobromæ,.....3 j

M. et in suppositorii no. vj div.

S.—One every four to six hours.

Should these fail, nitrate of silver should be given by the mouth and rectum.

In the preceding pages will be found a sufficient variety of

opinion. Of **ipecacuanha** it may be said that it has won its most signal victories in combating the severe dysenteries of the tropics. Its use is extending, however, in severe cases of ordinary dysentery.

The authors of this work agree with those who do not approve of opiates. Narcotism is readily induced and highly dangerous, while opium fails as a remedy for the tenesmus and a means of restraining the inflammation. It cannot compare with injections of very hot water in this respect. Nearly all the indications are met by these hot injections, of a half-pint each, repeated every two to four hours. In many cases small doses of sulphate of magnesia and aromatic sulphuric acid give the best results. Hot poultices or stupes are of very great value.

DR. J. T. COVENY, in *The Medical World*, 1886, recommends the lycopus Virginicus, as a specific in dysentery. He directs half an ounce of the fluid extract to be boiled in eight ounces of milk for one minute. Of this he gives to a child a teaspoonful every fifteen minutes to two hours, as needed. Other writers speak favorably of this drug.

DYSPEPSIA.

In this article only atonic dyspepsia is considered. Gastric catarrh will be considered separately.

WILSON FOX recommends the most easily assimilable food to be given, in small quantities, at short intervals. Milk and strong beef tea, and animal jellies, combined with alcoholic stimulants, are the forms to be preferred. A cup of tea may often be taken with advantage before rising in the morning.

Fresh cooked meat should be eaten twice daily; beef, mutton and game being preferred. Chicken, calves' feet, sweetbreads and tripe are also permissible. Eggs, fish and oysters may be used if they agree. Caution is requisite in the use of vegetables. When they cause flatulence, rice, macaroni, grapes, berries and

prunes may be substituted. Peaches agree with most dyspeptics, apples with many, according to HARTSHORNE. Potatoes should be well boiled, and not too young. Spinach, vegetable marrow, beets, green peas and French beans, may commonly be taken. Bread should be eaten only when stale. But little fluid should be taken at meals. Cocoa made from the shells will agree better than tea or coffee. A little wine should be taken twice daily; the variety being left to the taste. Sugar may be used, but condiments are to be avoided, except by those accustomed to their use.

The general regimen should also be tonic; including sufficient rest at night and after meals, an open air life, travelling, sea-voyages, exercise not pushed to fatigue, with cheerful society and change of scene.

Cold baths will be useful if reaction occur promptly. If not, tepid sponging should be substituted, with the use of the flesh-brush.

Independently of these agencies, drugs are of little value.

When anemia is present, the milder preparations of **iron** are indicated; but when there is much relaxation of tissue, the tincture or sulphate is preferable. If constipation or amenorrhea co-exist, the sulphate of iron may be combined with **aloes**.

In other instances the chalybeate saline waters prove of greater efficacy than any known remedies.

The Pavilion, Excelsior or Empire Springs at Saratoga are good examples of such waters; in fact, all the Saratoga waters come under this head. Their beneficial effects are greatly enhanced by the pleasant circumstances connected with the life at these resorts.

Of the vegetable bitters, he places in the front rank, **nux vomica** and **quinine**. The former may be given in the dose of five to ten drops of the tincture, with a mineral acid, infusion of orange peel and syrup. Quinine is of more doubtful utility. Its tendency to cause headache and to disorder the stomach must be watched. It is best suited to cases of convalescence. Of the simple bitters, **calumba** has perhaps the highest place.

Alcoholic stimulants should be taken before or with the meals.

As adjuvants to the process of digestion he recommends hydrochloric acid and pepsin.

None of these remedies should be continued very long; as they lose their effect, and disorder the stomach after a few weeks.

BARTHOLOW says that in this as in other stomach disorders, the first step consists in regulation of the diet. It is useful to commence the dietetic management by the milk-cure. Next, as rapidly as possible, nutritious but easily digested articles must be added. As the digestive powers are feeble, food must be given in small quantity but frequently. As the foods disagree, irrespective of their quality, the points to be considered are obviously quantity and frequency of ingestion. As the powers of digestion are depressed, the special aids to this function are indicated; pepsin, lacto-peptine, in combination with muriatic acid; strychnia, and the bitters, especially calumba, with or without muriatic acid; and the mild chalybeates, as pil. ferri. carb., the citrate, malate, or tartrate of iron, etc., are the most appropriate of the medical agents. A small quantity of acid wine at dinner is a good stimulant to the digestive function. A moderate dose of whisky taken before meals, is a capital remedy to promote the appetite and the digestion; but it is a dangerous remedy, for it so overcomes the feeling of depression as to be very grateful, and there is therefore a constant temptation to repeat the dose. As in these cases there is usually more or less mental depression, change of scene, travel, and agreeable occupation contribute materially to the cure.

A very useful prescription is that known as *Liquor Pepsinæ*:

R.	Pepsinæ,.....	3 j
	Acid. hydrochlorici dil.,.....	f3 iij
	Aquæ,.....	q. s. ad. f3 vj

M. S.—A tablespoonful after each meal.

Pepsin should not be given in wine, as alcohol precipitates this agent and renders it inefficacious. It should be given in large amounts. Only the best pepsin is effective in five-grain doses. The effect of the vegetable bitters is only temporarily beneficial. They may be given for a period of not more than three weeks. If continued longer they disorder the stomach, and

the good first obtained from their use is lost. Iron cannot as a rule be given for any longer periods. The milder preparations, such as the ferrated elixir of cinchona or of gentian, the bitter wine of iron, or beef, wine and iron, should be selected. We rarely prescribe alcoholic beverages for atonic dyspepsia. The good effects accruing from their use are more than counter-balanced by the danger of the patient's contracting the habit of drink. These cases are unusually prone to fall into this habit; and, beginning the use of stimulants under the idea that they are beneficial, the habit is contracted unconsciously.

The whole family of spices should be tabooed for another reason. They afford temporary relief, but leave the patient in the end worse than in the beginning; for the stomach will cease to digest without the stimulus, and finally even with it.

It may be laid down as a fundamental principle, that a cure must be sought by improving the general health, and not by local stimulants applied to the gastric mucous membrane. The use of the artificial digestants, pepsin, pancreatin, malt extract and ox-gall, is strictly in accordance with this doctrine; for by digesting a larger quantity of food the blood is enriched, and the nutrition of the stomach will be improved, as well as that of the rest of the body.

Malt extract should be given half an hour before meals, with a bit of toasted bread or zwieback.

Pancreatine is most effectual if administered half an hour after meals. We have found Dudley's formula exceedingly useful in these cases:

℞ Ol. morrhue,.....f℥ ij
Glycerinæ,.....f℥ jss
Calcii lactophos.,.....gr. xcvi
Pancreatin.,.....gr. xxxvj
Fiat mist., q. s. ad.....f℥ vj

S.—A dessertspoonful one-half hour after each meal.

The emulsion is made with Irish moss.

Too much praise cannot be given to the hygienic directions laid down by Wilson Fox; and especially to that recommending cold shower baths.

EMPHYSEMA.

BARTHOLOW says, as we have to deal with an incurable disease, our treatment must be largely palliative. For the asthmatic attacks there is no remedy so efficient as the subcutaneous injection of **morphine** and **atropine** (gr. $\frac{1}{6}$ morphine, and $\frac{1}{120}$ atropine). A single injection may arrest a paroxysm, but the dose may be repeated as necessary, rarely more frequently than once in six hours. Next to the injection of morphine, most relief is afforded by full doses of **iodide of potassium**, alone or combined with the bromide. From fifteen to twenty grains of the iodide, and forty grains of the bromide, every two, three, or four hours, according to the urgency, may be prescribed. Chloral, which affords great relief, is very unsafe in old cases with dilated right cavities; if given under any circumstances, it should be combined with morphine and atropine to prevent the depressing effect on the heart. A combination of morphine, chloral and atropine is an exceedingly serviceable combination for the relief of the difficult breathing. Besides these agents, **narcotic fumigation** may be practiced. Pastiles of belladonna, stramonium, tobacco, opium, eucalyptus, etc., may be burned, and the fumes inhaled. As the accompanying bronchitis is an important element in these cases, measures are necessary to relieve it. The best results are obtained from copaiba, turpentine, and eucalyptol, given in conjunction with **iodide of ammonium**. Excellent results are obtained from the combined administration of iodide of ammonium and **arsenic**, continued for some time. It is well known that arsenic increases the depth and volume of the respiration, and promotes the nutrition of the lung, and the iodide is an effective remedy for the bronchitis. In these facts we have an explanation of the utility of the combination. When the bronchial secretions are insufficient, small doses of tartrate of antimony are very useful, and give great relief. **Quebracho**, which has lately been brought forward as a remedy for dyspnea, is a valuable palliative. Atropine is a remedy of great power, and has an influence over the lung, increasing the respiration and promoting the nutrition of the organ. It may cause distress if there is a lack of bronchial secretion, but usually the opposite state obtains, and consequently atropine can be given, as it ought to be under these circumstances, in small doses twice a day for a long period.

Of all the means hitherto proposed for the relief of emphysema, nothing has approached **compressed air** in effectiveness. Indeed, this is the only scientific remedy which has yet been brought forward for the treatment of emphysema. The chamber into which air is pumped until a pressure of one and a half to two atmospheres is obtained is the best arrangement, but unfortunately it is accessible in but few places. The good effects of breathing compressed air are enhanced by expiration into rarefied air, which of course has the effect to draw the blood into the lungs. "Expiration into rarefied air is the specific mechanical antidote to emphysema." The inhalation of compressed air or of **oxygen** may be used as a palliative to relieve the attacks of spasmodic difficulty of breathing.

The treatment of the dropsy requires a nice adjustment of means to the object. Much can be accomplished by acting on the skin and kidneys. If the heart will bear it, **pilocarpine** may be employed to act on the skin. Hydragogue cathartics can be given at the same time, of which the pulv. jalapæ comp. is best. A teaspoonful or two should be taken in the early morning, and pilocarpine in the afternoon. If the desired results can not be thus obtained, free diuresis may be attempted while the hydragogue is also administered. Basham's mixture is an excellent combination, containing as it does a chalybeate with a saline. NIEMEYER'S prescription of vinegar of squill, with bicarbonate of potassa, thus forming **acetate of potassa**, is a good diuretic. There is no more certain diuretic than bitartrate of potassa, and it may be combined with infusion of juniper and squill. A weak solution of cream of tartar may be drunk *ad libitum*.

LOOMIS calls attention to the importance of improving the nutrition. He recommends the ethereal tincture of the **acetate of iron**, continued for a long period. Quinine may be added with benefit in most cases. Dyspepsia calls for bitter infusions, and emaciation for cod liver oil. Alcohol is often beneficial when taken with the meals. The diet should be highly nutritious, and composed largely of lean meat. Flatulent food and liquids should be avoided. Exercise in the open air should be taken moderately. Exposure to cold, and asthmatic localities should be avoided.

That locality should be preferred where the patient can live in the open air, and where he feels the least dyspnea.

Iodide of Potassium has proved particularly valuable in the bronchitis which accompanies emphysema. Fifteen to sixty grains should be given daily.

Quebracho is useful for dyspnea.

All other complications require their appropriate treatment.

ROBERTS sums up the treatment as follows:—

1. Every precaution must be taken against the occurrence of bronchial catarrh, and other known causes of emphysema.

2. The alimentary canal must be kept in order.

3. Complications must be treated, such as asthma, cardiac diseases, venous stasis, and bronchitis.

4. The general health must be improved by tonics; iron, and cod-liver oil.

5th. Direct treatment of the emphysema itself is of doubtful utility. A change of climate is often beneficial. The climate suitable to each case is a matter of personal experience.

CHAMBERS prescribes tincture of iron and of lobelia, and adds that nothing calms the distressing asthma so well as a few whiffs of strong tobacco.

DA COSTA thinks that **iodide of potassium** is useful even when bronchitis does not exist. Good results are obtained from counter-irritation.

R Potass. chloratis,.....℥ jss
Tinct. belladonnæ,.....f ʒ jss
Ext. pruni Virg. fl.,.....
Tinct. cinchon. comp.,.....ââ f ʒ ij

M. S.—A dessertspoonful four times a day, in emphysema with chronic bronchitis and loss of appetite.

Another prescription of the same distinguished clinician is—

R Potass. iodidi,.....℥ ij
Ext. senegæ fl.,.....f ʒ j
Syr. pruni Virg.,.....f ʒ ij

M. S.—A teaspoonful thrice daily.

GREENHOW prescribed the following:

R	Potass. iodidi,.....	gr. xxxvj
	Ammon. carb.,.....	3 j
	Tinct. scilla,.....	
	Tinct. hyoscyami,.....	ââ f 3 ss
	Aque camphore,.....	f 3 v

M. S.—A tablespoonful thrice daily.

A stramonium cigarette is also to be smoked as soon as an asthmatic attack is threatened.

NIEMEYER spoke highly of the habitual wearing of flannel, of stimulants to the chest, warm vapor baths, and the alkaline muriatic waters, such as those of **Ems**. The patient should spend the summer among the pine forests, where there is a heavy fall of dew.

For the attacks of asthma he recommended camphor, musk, benzine, and port wine. If these failed he gave oil of turpentine.

MEREDITH CLYMER gave the following for the asthmatic attacks:

R	Tinct. opii,.....	f 3 j
	Etheris,.....	f 3 ij

M. S.—Sixty drops every twenty minutes.

To each dose may be added twenty drops of ethereal tincture of **lobelia**.

GERHARDT advised pressure upon the chest walls and abdomen during expiration. This is not serviceable when the bronchi are occluded with viscid secretion.

Some emphysematous patients do well in Minnesota, Colorado, or Dakota, especially those who are not much reduced in general health. But the majority find a more favorable climate in the pine forests of North Carolina; with a winter visit to Florida. There is no doubt of the popularity of compressed air in the present treatment of this affection. Of its true value we cannot as yet form a just estimate. The reports are too favorable at present.

EPILEPSY.

BARTHOLOW says many cases have been cured by the application of the trephine, and the number is increasing. So favorable have been the results of this practice that, if a severe blow on the cranium has been followed by epilepsy, and any injury of the bone can be detected, the trephine should be used. Cicatrices so situated as to exercise pressure on a nerve should be dissected out—a practice of special necessity when an aura or any uneasy sensation starts from the affected part. Permanent relief has been obtained by cutting down on the point whence an aura proceeds, not only removing a source of irritation, but dividing or stretching a nerve trunk. When the impression arises at the epigastrium and passes thence to the brain—probably the most frequent of all prodromic symptoms or warnings—most careful attention must be given to the diet. Epileptics eat largely and bolt their food. When stomachal symptoms exist, an epileptic should be restricted to the milk-diet for several weeks, and should then gradually have additions made to it; but the permanent diet should not exceed milk, eggs, a little meat once a day, a single vegetable, a very little bread and butter, and one fruit. Restriction to this plan of diet will often effect remarkable improvement. When the attacks are nocturnal a sufficient dose of chloral, or better, the hypodermatic injection of morphine at bed-hour, will act most efficiently to prevent them. The nitrite of amyl by inhalation will often avert an impending attack. The advantage of this remedy consists in the facility with which it is employed. A pearl containing three to five minims can be broken up in a handkerchief and inhaled without delay.

ALLAN McLANE HAMILTON thinks the intractable character of the disease has come to be greatly exaggerated, through failures due to the indiscriminate use of the **bromides**, without regard to the indication in each case. A reliable bromide should be selected, and given with some judgment. A large dose at bed-time, in cases where the attacks occur in the morning, will do more good than the same amount in divided doses. In some anemic persons the bromides increase the attacks. Petit mal is not so amenable to this remedy as grand mal. He prefers the **bromide of sodium**. It should be given well diluted, on an empty stomach.

Cerebral congestion indicates the addition of **aconite** or chloral to the prescription. Weakness of the heart demands digitalis, nitro-glycerine or strychnine. Cases accompanied by polyuria are promptly relieved by digitalis and nitro-glycerine, and so also are those following migraine.

Bromism is to be avoided, beyond the point of slight faucial anesthesia and acne.

If the dose must be increased beyond this point, tonics should be added to it. A series of spasms should be met by an increased dose.

This treatment should be kept up for two or three years after the fits have ceased, or even much longer. Hysterical or ovarian complications demand the addition of **cannabis Indica**; which is also useful when migraine is present.

Next to the bromides of potassium and sodium, he prefers the bromide of **nickel**. LEAMAN reported two cases "greatly benefited" by it. He thinks it is suited to cases characterized by long intervals between the spasms. WEIR MITCHELL recently commended the **bromate** of potassium, in doses of fifteen to thirty grains daily. ERLÉNMEYER recommended the mixed bromides, of potassium two parts, of sodium two parts, and ammonium one part. He found the acne occasioned by a single salt disappear when the combination was substituted.

Belladonna, so highly commended by TROUSSEAU, is of use in petit mal, and in obscure infantile convulsions. **Ergot** is of use in the same cases. For the purpose of aborting a threatened attack, HAMILTON commends **nitro-glycerin**, in doses of $\frac{1}{50}$ - $\frac{1}{25}$ gr.

When an aura is distinctly felt, he advises a circular blister to be applied above the point whence the aura proceeds.

The status epilepticus is best treated by **amyl nitrite**.

BROWN SEQUARD says that as every attack causes changes which prepare other attacks, it is essential to produce, if possible, the abortion of attacks whenever warnings occur. The treatment varies with the warning. In cases in which a real aura exists many means can be employed with the greatest benefit. The application of a **ligature** round a limb acts by sending an irritation to the nervous centres. The ligature need not be left applied, and

greater success is attained by tying suddenly and very quickly a handkerchief or a band, and repeating this tying several times in succession, than by applying the ligature even very tightly and leaving it so. The ligature can do good even when applied on another limb than that where the aura is felt, although it is usually more efficacious on the latter. Pinching or striking the skin, or irritating its nerves by heat, by cold, by galvanism, or by repeated pricks with a needle, will generally do as much good as the ligature.

In those cases in which an involuntary muscular contraction takes place before an attack, one of the most efficient means to produce an abortion of the fit is to draw forcibly on the contracted muscles, so as to elongate them. For instance, in cases of contraction of the flexor muscles of the forearm, forcible extension of the hand over the fore-arm may succeed in preventing the attack. A blow, pressure, or friction on parts where some muscles become rigid, may have the same favorable effect.

If there are disturbances of breathing among the premonitory symptoms, the inhalation of **ether** or chloroform may prove successful.

An emetic, a purgative, a stimulant, the immersion of the hands in hot water, the application of a lump of ice to the back of the neck or between the shoulder blades, the subcutaneous injection of a solution of $\frac{1}{40}$ of a grain of atropine with $\frac{1}{3}$ of a grain of morphine, powdered *asarum* taken as snuff, a dose of twenty-five grains of hydrate of chloral, the inhalation of a small dose of nitrite of amyl, extremely rapid and ample voluntary respiratory movements for five or six minutes, jumping, running for at least ten minutes, reading very loud and fast—such are some of the means which he has found to be the most successful.

The second point of importance about treatment is to try to discover a part of the body which can by irritation give rise to a premonitory symptom of an attack, or even to an attack itself. If such a part is discovered, counter-irritation of some kind is to be applied there. Hard pressure on certain parts of the head, the spine, the breast, the abdomen or the limbs, has in a number of cases produced an attack or some symptoms of it. He has seen the passage of a galvanic current produce the same effect. In

such cases a blister or other local application has done good in diminishing the violence or frequency of attacks, and even, in a few instances, helped notably to a cure.

The modes of treatment of epilepsy, gravior or minor, which chiefly deserve to be noticed are the following:—

Against idiopathic epilepsy the most powerful means consists in the simultaneous use of some tonic remedy (such as strychnine or arsenic) in a solution to be taken after meals; and of a mixture composed more or less like the following:

R	Potass. iodidi,.....	3 ij
	Potass. bromidi,.....	3 j
	Ammon. bromidi,.....	3 iij
	Potass. bicarbonatis,.....	3 j
	Tinct. calumbæ,.....	f 5 j
	Aquæ destillatæ.....	f 3 vj

Of this solution may be given to adults four doses a day, three of one teaspoonful each before meals, and the fourth of three teaspoonfuls at bed time with as much water as desired. According to many circumstances the dose of one or another of the ingredients is to be changed. For example, if the *petit-mal* exist alone, or co-exists with the complete epilepsy, the dose of the bromide of ammonium must be larger, and that of the other bromide diminished. If there be a weak pulse the sesquicarbonate of ammonia is to be substituted for the bicarbonate of potassa. Two essential rules are to be followed when either such a mixture or any of the many bromides is employed against epilepsy; the first is, that there ought to be no interruption whatever in the use of such remedies, and the whole benefit that may have been obtained may be lost at once after an interruption of even only a few days; the second is that the treatment must be persevered with for at least two years after the appearance of the last attack. There is no marked harm in the great majority of cases from a prolonged use of a mixture like the above: many patients have taken it for several years, and some for six, eight, or ten years without any marked bad effect.

Idiopathic epilepsy has been successfully treated (very rarely cured, but often benefited) by the use of a number of remedies. Judging by his own experience, the writer names, as the most powerful, **atropine** and the ammoniated sulphate of copper.

Although not able generally to produce as much and especially as prompt a good effect as the above mixture, the two remedies have the superiority over this mixture that they need not be constantly used, and that there is no necessity of continuing to employ them longer than eight or ten months after the last attack. Next in importance after the three means spoken of, will come the cotyledon umbilicus, the nitrate of silver, and zinc preparations, especially the bromide of zinc.

The other forms of epilepsy require pretty much the same modes of internal treatment; but, of course, according to the cause of each form some special means should be employed. In the above prescription the dose of the **iodide of potassium** must become as large as that of the bromide of potassium, when syphilis is considered to be the cause of epilepsy, and, if needed, mercury should be administered also. If epilepsy depend on some visceral affection, it is clear that the treatment should be directed against that affection. But if the liver be diseased from some influence of malaria, the sulphate of quinine should not be given, as it is almost always a bad remedy against epilepsy, often more hurtful than it can be useful. Arsenic then should be the remedy used against the sequelæ of fever and ague. If quinine must be employed in cases of clearly periodical epilepsy, the valerianate should be given rather than the sulphate.

The writer's experience shows that in most cases **iron** is rather harmful than useful. It is only in cases of epilepsy allied with or caused by chlorosis or considerable anemia that its good effect is often very marked. Even then, we have sometimes found **manganese** more serviceable. There is, however, one salt of iron—the **citrate**—which, although less powerful against a deficiency of blood-globules, is however less apt to give rise to attacks than are most ferruginous preparations in a number of cases.

Of other internal remedies, **cod liver oil** if well borne is certainly useful, especially against the *petit-mal*. The importance of giving simultaneously with the bromides either arsenic or strychnine has been already mentioned. **Arsenic** alone can do much against any form of epilepsy, perhaps chiefly against *petit-mal*, but the writer does not personally know of a single case of cure by its use. Strychnine can also alone do good, but less than arsenic.

Digitalis or digitaline have been credited as having effected cures: so have turpentine and a number of other medicines. The writer has obtained only a very limited good from the use of digitalis or turpentine. As regards the curative influence of the nitrite of amyl, it is yet *sub judice*.

From **counter-irritation** there is a great deal to be expected. Ice (not in a bag), the actual cautery, blisters, &c., applied to the back part of the neck and between the shoulder-blades, are most useful in any form of epilepsy, especially when there is a great deal of headache and considerable heat in the head. When attacks are very violent and frequent, there is some good, and at times a decided amelioration, to be obtained from croton oil applications on a great part of the shaved head. Setons and issues very rarely do any good, and often weaken and irritate.

A circular blister round a limb, a finger or a toe, is most useful in cases of an aura starting from those parts. It is known that in such cases a nerve has been divided, sometimes with great success. Trepanning the cranium, except on clear rational ground, is certainly to be avoided. But when the attacks are extremely violent and frequent, especially if they seem to endanger the life of the patient, and when there is a clear evidence of pressure exerted on the brain, that operation, which in such cases has often been useful, ought to be resorted to, after the failure of other means. In cases of laryngeal epilepsy the writer has found the cauterisation of the fauces and of the larynx itself with a strong solution of nitrate of silver a very useful means, and even in one case a means of complete and persistent cure.

During an attack of epilepsy, except what simple common sense suggests, there is very little to be done. Pressure on one or on both carotid arteries, which we now know to act on account of the accompanying pressure on the par vagum and on the cervical sympathetic nerves, will sometimes considerably shorten an attack, especially if there is violent action of the heart. When the convulsions cease, the tongue ought to be drawn forward and the head of the patient, if not his body, turned sideways, so as to avoid the covering of the larynx by the half-paralyzed tongue. No other interference at all with the patient should be the rule after the attack.

One of the most common sources of failure in the treatment of epilepsy is the tendency of patients to go the rounds from one physician to another, not remaining long enough with any one to permit of a cure. It is often wise to contract with such persons that they will remain for a definite period under treatment; never less than a year. This will allow time for careful study of the case and of the exciting causes of the fits, as well as of the action of remedies.

We desire to call attention to a drug which has never been sufficiently tried in epilepsy. **Physostigma** was brought forward as a physiological remedy, but after a very cursory trial, was dropped. We have used it lately with better results. One reason for its failure may have been the poor quality of the preparation. We have given it in doses gradually increased up to two drachms of the fluid extract without obtaining decided effects.

None of the authors above quoted have sufficiently insisted upon the vital importance of so regulating the diet as to avoid the exciting causes of the spasms. One case of nocturnal epilepsy baffled every effort to cure it, until we traced it to a lunch of Swiss cheese, taken late at night, which was invariably followed by a fit. In one case the bromide of potassium was given by us in doses varying according to the desire of the patient, from forty to three hundred grains daily. This was continued for nine months, without a single fit. The drug was then stopped, and in two days the man had a convulsion. The bromide was resumed, and in eight months subsequently, no fits occurred. The case then passed out of our hands; the man removing to another city.

EPISTAXIS.

A. E. DURHAM speaks of the application of cold water or ice to the nose, dashing cold water against the back, elevating the arms above the head, and firmly compressing the nostril. The patient should not be allowed to blow the nose or in any way disturb the clot.

If these means fail, astringents should be injected into the nostril. If these be ineffectual, the nostrils should be plugged with Bellocq's sound, or an extemporaneous substitute. The

plugs should not be allowed to remain more than two days. Frequent recurrence of the bleeding calls for hygienic treatment, rest, and particularly, **iron**.

We have found no remedy to arrest epistaxis equal to the injection of a weak solution of **chromic acid**. Enough of the acid should be added to the water to render the solution pink, and this may be applied freely. We have never met with a case which resisted this application.

An old surgeon in Cleveland once made use of the following novel method. He took a piece of sole-leather and scraped it with a sharp knife. The soft shavings were thrust into the nostril until it was tightly packed with them. The leather swelled slightly as soon as it became moist and effectually stopped the hemorrhage.

In cases of persistently recurrent hemorrhage it is of the utmost importance to check the flow as soon as possible; as each leaves the blood thinner and more likely to escape from its vessels.

We must enter our earnest dissent against the use of iron in these cases. Recurring epistaxis indicates the scrofulous cachexia, and after puberty it is replaced by bronchial hemorrhage. The fault is primarily in the walls of the vessels, which are too weak to retain the blood. The use of iron only increases the tendency to hemorrhage, and will even bring it about in cases where epistaxis has not yet occurred. **Ergot** is the best remedy to keep the hemorrhagic tendency in check, until the general health has been invigorated by judicious hygienic management, and the vessel-walls strengthened by a prolonged course of **lime**, in the form of the lactophosphate. Iron should only be used in cases of true anemia from loss of blood or from exhausting disease. In all other hemorrhages it does harm.

ERYSIPELAS.

BECK recommends the following plan of treatment:

Clear the bowels, but avoid violent purgation. Only two drugs have any reputation in the treatment of erysipelas. The

tincture of perchloride of iron, in large and repeated doses, has been strongly recommended by REYNOLDS and others, and is stated by some to act as a specific. To be of any use it must be given in doses of forty minims every four hours. **Aconite**, if administered as soon as the temperature begins to rise, is said to cut the attack short. It may be given in half-minim or minim doses of the tincture, at first every quarter of an hour for one or two hours, and afterwards hourly till the skin becomes moist and the temperature falls, but its effects must be very carefully watched, to avoid dangerous depression. The *diet* must be as nourishing as possible; beef-tea, eggs and milk, etc. Solid food can never be taken during the advance of the disease. Stimulants are usually required, and the amount must be regulated by the pulse. Large quantities are often necessary.

Local treatment is various. Warmth and avoidance of variations of temperature are essential. Cold is utterly inadmissible.

The most important sedative application is **belladonna**. It is best applied as a paint composed of equal parts of the extract and glycerine. It is especially useful when there is much inflammation of the lymphatic vessels and glands. VALETTE, of Lyons, recommends a thirty per cent. solution of perchloride of iron; HIGGINBOTTOM, a solution of the "brittle stick of **nitrate of silver**," twenty grains to one drachm of water. Before applying either of these, the skin must be carefully washed with soap and water to free it from grease. The perchloride of iron must be rubbed in with a glove. MARSHALL recommends **creasote** made into a paste with kaoline; DEWAR, equal parts of sulphurous acid (B. P.) and glycerine; tincture of iodine is a common application. Lately HUETER has practiced the subcutaneous injection of a thirty per cent. solution of **carbolic acid**. He states that this causes an immediate arrest of the inflammation for a small distance round the puncture; if, therefore, the treatment is adopted at so early a stage that the area of inflammation can be surrounded by four or five punctures, the disease may be checked. Beyond this there would be danger of carbolic acid poisoning. Drawing a limiting line in front of the advancing rash has been done with solid nitrate of silver and with blistering fluid. It is utterly useless.

Erysipelas of the fauces is best treated by the local application

of a strong solution of perchloride of iron. If there be œdema glottidis, the swollen parts must be scarified, and if that fail to give relief, tracheotomy may be necessary.

To avoid the complications which may arise in even simple cases, BARTHOLOW gives the tincture of **belladonna**, or preferably a solution of atropine (atropinæ sulph. gr. j, aquæ j. M. Sig. One drop every four hours in some water). As the effect of the atropia accumulates, the interval between the doses is enlarged. In the more severe cases **quinine** should always enter into the treatment, and in full medicinal but not antipyretic doses.

℞ Quininæ sulph.,.....℥ ij
Ext. belladonnæ,.....gr. iij

M. ft. x pil.

Sig.—One every four hours.

The delirium of anemia, the usual form, especially in those addicted to alcoholic excess, is best relieved by alcoholic stimulants and morphia, and belladonna, if the latter does not enter into some other combination. The systematic use of milk and beef-essence is necessary in all severe cases, especially under the conditions named above.

LOOMIS does not approve of specific local applications. Cold dressings with mildly astringent anodyne lotions are most agreeable. A saturated solution of nitrate of silver may be painted around the erysipelatous patch, and sometimes checks the spread of the disease. Subcutaneous injections of carbolic acid seem to give the best results in surgical erysipelas. Concentrated nutriment should be given in small amounts but frequently, and stimulants used as in other fevers.

GARRETSON's famous prescription is as follows:

℞ Quininæ sulph.,.....℥ j
Tinct. ferri chlorid.,.....f 3 ij
Tinct. cinchon.,.....f 3 j

M. S.—Paint over the whole erysipelatous surface until black; renewing the application *whenever the redness shows through the black*.

Our own preference is for the **flexile collodion** painted around the diseased surface, and persistently reapplied whenever

it scales off, or the erysipelas passes the circle. As a dressing we use dry salicylated absorbent cotton.

But recently an agent has been introduced in the treatment of erysipelas which bids fair to relegate all others to oblivion. We allude to **jaborandi**. It should be given in doses of fifteen drops of the fluid extract, repeated every three hours, and increased if necessary until moderate sweating has been produced. In the cases in which we have used this drug, its effect upon the erysipelas has been as uniform as that of cold upon a thermometer.

If the heart show signs of weakness, **digitalis** may be added; while quinine and iron may be given continuously from the start, to sustain the strength and shorten convalescence.

DA COSTA has also obtained good results from the use of **jaborandi**.

It is said that the application of white paint, in order to exclude the air, will relieve all pain and cause the inflammation to subside.

EXOPHTHALMIC GOITRE.

BARTHOLOW says: The usual arterial sedatives possess but small value in the treatment of this disease. Good results have been obtained from belladonna and ergot. They should be administered for several months, and in full doses. The anemia, which is so pronounced a symptom, requires iron. TRAUBE achieved great success by a combination of quinine and iron. This author has had good effects from quinine, belladonna and ergotin in combination. Galvanization of the cervical sympathetic and pneumogastric, by placing the anode under the ear and the cathode at the epigastrium, he has found to be of the highest efficiency. While the current is passing, the action of the heart becomes less tumultuous, the protrusion of the eyes diminishes, and the thyroid shrinks somewhat. Besides the stable application just indicated, labile applications should be made over the thyroid, and a weaker current should be applied to the eyes. While the galvanic applications are being made, the remedies suggested may be used internally.

PAUL quotes De Mussy as having obtained prompt and unexpected success from the use of **iodine**. Three to six drops were given three times a day.

DUJARDIN-BEAUMETZ employed **duboisine** in two cases. Notable improvement followed speedily, but at the end of a week it became necessary to discontinue the drug, on account of its poisonous effects.

BÉNI-BARDÉ urges the use of **cold water**, in the form of the movable douche, used generally, cold, short, and somewhat forcible. Complete recovery has ensued in from four to eight months.

TRAUBE gives five grains of quinine one day, and ten grains of Vallet's mass the next.

LOOMIS also speaks approvingly of quinine and iron. He says that galvanization of the cervical sympathetic diminishes the exophthalmos and lowers the pulse rate; while a prolonged residence in Colorado seems to arrest its progress, and in one instance led to apparent recovery.

ROBERTS recommends digitalis and belladonna, with iron.

T. LAUDER BRUNTON says that the treatment chiefly consists in securing fresh air, gentle exercise, avoidance of fatigue or emotion, and careful diet. When the eyeballs become so prominent as to be liable to ulceration, they must be protected by a shade.

FACIAL PARALYSIS.

BARTHOLOW's treatment is as follows: The cause of pressure on the nerve within the cavity of the cranium, or disease of the ear, should be removed if practicable. In all doubtful cases a course of iodide of potassium should be prescribed. If the attack be of the rheumatic variety—so called—blisters to the mastoid and the internal use of pilocarpine are the most effective measures. The application of electricity, the galvanic current preferably, should be begun at once, and continued faithfully until a cure is

effected or discovered to be unattainable. The application should be made by one pole—the anode—on the mastoid, and the cathode passed over the terminal filaments of the nerve as distributed to the muscles.

ROSENTHAL says that the treatment in recent cases consists of vapor baths followed by a facial douche of moderate temperature, and the use of **iodide of potassium**.

In old forms he prefers strychnine. **Electricity** he considers the most efficient remedy at our command. In recent cases he applies a weak faradic current to the paralyzed muscles or nerves, for three to five minutes. To relieve deformities acquired during treatment, REMAK uses stable constant currents of ten to twenty Siemens' elements. Old contractures, however, will require myotomy or faradisation of the homologous muscle. In applying the galvanic current, the anode is placed in the mastoid fossa and the cathode is moved over the pes anserinus; on the temple for the superior muscles, outside the zygoma for the lids and upper lip, on the ramus of the jaw for the chin and lower lip.

A good method is placing the anode inside the cheek and the cathode over the paralyzed muscles. This requires fewer cells.

In obstinate cases the continued and interrupted currents should be used alternately or simultaneously.

Traumatic paralyses are rebellious and require months for recovery. The best treatment is the alternate use of the induced and constant currents.

Paralysis due to disease of the auditory apparatus may disappear when the primary disease is cured; especially if electricity be used.

Syphilitic paralysis may be due to centric disease or to specific lesions of the nerve-trunk. In either case the treatment of cerebral syphilis is indicated, which see.

MILES believes **iodide of potassium** to be beneficial in cases depending on otitis, apart from any anti-syphilitic action. In rheumatic cases he places the positive pole behind the ear on the affected side, and the negative behind the other ear, and uses a moderate constant current for two minutes. He also makes use of both currents applied directly to the affected muscles. This

should be repeated daily, from two to five minutes. Strychnine he mentions only to advert to its utter uselessness. He speaks favorably of mechanical appliances and manipulation, as means of preventing distortion. Contractions and rigidity require stretching, massage, etc.

GOWERS adds his voice in favor of electricity in all forms and stages of this disease. He speaks of the difficulty of removing late contraction, and suggests injections of oleate of morphine in addition to the means mentioned previously.

GALL STONES.

BARTHOLOW says: The severe pain demands immediate attention. There are two methods of relieving it; by the inhalation of ether, and by the hypodermic injection of morphine. The action of the former is temporary, and of course the relief is confined to the period of unconsciousness. This may be sufficient, but usually prolonged administration is necessary. The hypodermic injection is more effective. From one-twelfth to one-sixth of a grain of morphine is usually sufficient for an ordinary case, but if the suffering be very great, one-fourth to one-half of a grain may be required. The combination of morphine and atropine is both more effective and safer, and hence atropine should be given, $\frac{1}{100}$ grain at each injection. Not only does this remedy remove the pain, but it is the most efficient means of preventing or subduing peritoneal inflammation. Warm baths and hot fomentations to the right hypochondrium contribute to relief. Undoubted advantage is derived from the use of leeches, when, the symptoms persisting, tenderness develops and fever arises.

Prophylaxis is highly important. All fats and articles containing fat in any form are to be rigorously excluded. Saccharine substances are also prohibited, and the starchy constituents of the diet are reduced to a little white or corn bread; potatoes, beans, peas, and rice being excluded. Lean meat of all kinds, eggs, fish, fruit, and the succulent vegetables are permitted freely. Wine at

dinner is allowed, but malt liquors and spirits are forbidden. Daily exercise is directed. All irregularities of life of every kind are given up. The remedy which above all others has the power to effect the solution and disposition of calculi, is **phosphate of soda**. This is prescribed in the dose of a drachm three times a day, dissolved in sufficient water, and taken before meals. This remedy is continued for several weeks or months, and if there be present evidences of gastro-intestinal catarrh, $\frac{1}{20}$ of a grain of the arseniate of soda is added to each dose of the phosphate. Vichy water and our own Saratoga Vichy, as well as the alkaline waters of this country, which are so abundant, should be used daily in connection with the plan above indicated.

For the colic, J. WICKHAM LEGG recommends **morphine** hypodermically, a warm bath, and if these fail, the inhalation of ether or chloroform.

For the intervals, he mentions the use of **Durande's remedy** (three parts of ether and two of turpentine; ten to twenty minims thrice daily, in capsules), Carlsbad water, taraxacum and **aqua regia**.

VON SCHUEPPEL recommends hypodermics of morphine for the paroxysm, and **belladonna** as a succedaneum; in suppository or as a liniment.

By the side of these remedies he places **chloroform** in doses of half a drachm, internally or by inhalation. The patient should at once be put in a hot bath; and hot poultices, fomentations, flannels, etc., applied to the seat of pain. Some patients find greater relief from the use of cold.

The best results are obtained by giving large quantities of **hot water** with bicarbonate of soda added. Though this is at first vomited, it should be persisted with, and will give relief. Great sensitiveness over the gall-bladder, or marked and continuous pain, indicates the need of leeches.

Syncope and collapse call for stimulants, wine or ammonia, with sinapisms and frictions. BUFALINI recommended **podo-phyllin** in small doses for the colic and as an after treatment. MERCADIE corroborates this favorable report.

Emetics may be used in case the persistence of jaundice, after all other symptoms of hepatic colic have subsided, shows that a calculus has become impacted in the ductus choledochus. By this remedy the stone may be dislodged. For the same purpose VON SCHUEPPEL recommends purgatives, ethereal inunctions, warm baths, abdominal frictions, and especially the alkaline mineral waters of Carlsbad, Ems, Kissingen, Vichy, etc., as these increase the secretion of bile, and the stronger flow may dislodge the stone.

The fever caused by impacted calculi is amenable to treatment with **quinine**.

For the solution of stones remaining in the biliary passages, he states that Durande's remedy produces undeniable good results. This is attributed by Thenard to the anti-spasmodic action of the ether, and Frerichs therefore discards it for morphine, a better anti-spasmodic. Durande ordered his remedy in teaspoonful doses, repeated every morning until 500 doses were taken. Others believe that the ether may in this length of time exert such an influence on the surface of the calculus as to loosen it from its place, and perhaps disintegrate it.

BUCKLER gives from five to sixty drops of **chloroform** internally, every four hours, and claims that by this means the calculi may be dissolved as certainly as if in a test tube. The treatment should be continued for several weeks.

OCTERLONY recommended the **succinate of iron** in the same favorable terms.

The **alkalies** produce a secretion of thin, watery bile, which has a strong solvent action on the calculi. These have proved the best remedies as yet discovered. They also combat the catarrhal affections on which cholelithiasis primarily depends. The springs which have won the highest reputation are those of Carlsbad and Vichy. Instead of these waters we may substitute a solution of bicarbonate of soda.

BOUCHARDAT advised the use of the **citrates** and acetates of the **fixed alkalies**.

There is no question as to the superior efficacy of **morphine**

and **atropine** hypodermically, in the paroxysm. One-sixth of a grain of the former may be given with one-sixtieth of a grain of the latter. In case the syringe be not at hand, the same dose may be given by the mouth, in a little hot water. The effect will be almost as rapid as when the drugs are injected under the skin.

To prevent the recurrence, a long-continued course of **phosphate of soda** is certainly beneficial. Half a drachm may be given once daily, before breakfast. This drug acts by removing the duodenal catarrh, and by exciting an increased flow of bile, the natural solvent of cholesterin.

GASTRALGIA.

NIEMEYER speaks of the value of **iron** in anemic or chlorotic cases. In hysteric gastralgia the application of leeches to the os uteri, and appropriate treatment of any uterine disease which may be present, often has a striking effect. Malaria must be removed by quinine.

The pain calls for narcotics, the best of which is the acetate of morphine. The following has been much used with benefit:

R Tinct. nucis vom.,.....
Tinct. castorei,.....āā f 3 ij

M. S.—Twelve drops when needed for pain.

The salts of zinc, bismuth and silver have also been recommended.

ROMBERG added to the internal treatment the application of **belladonna** plasters over the stomach.

LEUBE calls attention to the number of cases in which this affection is secondary to other systemic diseases, which require treatment. Abnormal ingesta must be removed by emetics, or by the stomach pump. Uterine derangements, chlorosis, onanism, hysteria, malaria and arthritis, are among the affections which thus demand attention. For the paroxysms of acute pain he recommends warm baths, sinapisms, chloroform inhalations,

and the hypodermic use of morphine. **Bismuth** is by many considered a specific. Others have obtained striking results from arsenic. **Electricity** should receive a trial before all else. He uses the constant current, ten to fifty elements. The anode is placed on the point of greatest tenderness, and the cathode in the left axillary line or nearer the spine. The current should be strong enough to produce a slight prickling sensation, and should be continued ten minutes.

After fulfilling the duty which comes first in the treatment of all such nervous affections, of curing all derangements of health of every description which we can find and can cure, the gastric affection will still occasionally put our skill to the test. Much depends on the influence the physician can exert over his patient. In one case which had baffled the skill of a number of physicians, the patient made a long journey to a city to consult a young and inexperienced practitioner, who cured her by the administration of pepsin!

Oxide of silver has proved more useful in our hands than any single remedy besides. We give it in doses of gr. $\frac{1}{4}$ four times daily. **Oxalate of cerium**, in doses of two grains, every three hours, was recommended to us by GARRETSON, and has proved in some cases surprisingly efficacious.

In one case which resisted every remedy which was tried, the following observations were made: Intense pain followed the ingestion of any form of food or drink, however bland. It was found that a large bottle of champagne or beer was not apt to cause pain if taken at one draught. Morphine and brandy were the only drugs which gave relief, cocaine and iodoform failing. After many failures, the patient was finally directed to take an ounce of milk every two hours, day and night. Though this was followed by the most acute pain, it seemed that the capacity of the gastric nerves for suffering was finally worn out, and after three days the rebellious organ quieted down, and the patient rapidly recovered. This method requires the assistance of a trained nurse, into whose hands the patient must surrender herself absolutely.

GLOSSO-PHARYNGEAL PARALYSIS.

BARTHOLOW states that Cheadle reports a cure by the free administration of iodide of potassium, but this must have been a case of gummata. Iodide of potassium has never arrested the progress of, much less cured, a genuine case. **Galvanism** is the most promising remedy. Stable applications, the electrodes on the mastoid processes, and in the opposite direction, galvanization of the sympathetic, and applications to the lips, tongue, and fauces, should be persistently used. The current should have sufficient tension to cause slight giddiness and faint flashes of light. The séances should be short but daily, and, if suspended occasionally, can be kept up for the necessary period. Hydrotherapy is next to electricity, the most useful remedy. A wet pack can be worn about the neck every night, and a hot douche may be directed to the nucha for five minutes daily; or better, a sponge dipped in hot water and kept in contact with the back of the neck for a few minutes. The good effects of the water applications are increased by the daily use of a mustard plaster, kept in contact long enough to induce a little redness and nothing more.

SCHMIDT remarks that a cure, or even improvement, can only be expected in the early stages. KUSSMAUL recommends, at this period, wet cups to the nape of the neck, the **shower bath**, and nitrate of silver internally. He also uses the constant current, first through the neck and later through the whole spinal column, and also from the neck and hypoglossal nerve to the tongue. DOWSE reported a cure following the use of the **constant current**, with subcutaneous injections of atropine and strychnine, as well as cod-liver oil, quinine and phosphorus internally.

ERB lays stress upon the regulation of the diet and the habits in such a manner as to avoid all irritation of the nervous system. He speaks also of the good effect upon the nervous system produced by stimulating the nutrition. For this he relies upon hydropathic treatment, and **galvanization**; a stable current being sent through the mastoid processes and skull; galvanization of the cervical sympathetic (anode on the nucha, cathode at the angle of the lower jaw), and then induce movements of deglutition; besides this, apply direct galvanic or faradic currents to the

tongue, lips and palate. This must be repeated daily for a week. He also recommends internally, nitrate of silver, iodide of potassium and of iron, chloride of gold, ergotin, belladonna, iron and quinine.

GONORRHEA.

When a great number of remedies has been recommended for the cure of any disease, it is an indication that the affection is easily cured, is self-limited, or is incurable. Gonorrhœa may be prolonged indefinitely by carelessness, or by injudicious management, but in the majority of cases it can be classed in the second category, as self-limited.

One of the most important papers recently published upon this affection, is that which appeared in the *Indian Medical Gazette*, March, 1886, from the pen of Mr. R. H. Firth. In it he tabulates the results of treatment in 413 cases, as given below. The vehicle employed was usually mucilage of tragacanth. No medicine was given excepting a cathartic at the beginning. For ten days a simple diet was maintained.

Injection.	Cases.	Average Duration.
Chloral, gr. iij to ʒj.	7	31.8 days.
Sod. salicyl., gr. v to ʒj.	13	31. "
Acid. boric., gr. v to ʒj.	25	30.2 "
Acid. tannic., gr. v to ʒj.	10	29.7 "
Iodoform., gr. v to ʒj.	11	29. "
Arg. nit., gr. ¼ to ʒj.	14	28.4 "
Zinc. chlor., gr. ½ to ʒj.	44	27.3 "
Warm water,.....	23	26.6 "
Quinine, gr. ij to ʒj.	26	26.3 "
Plumbi acet., gr. iij to ʒj.	20	26.1 "
Bismuth and glycerine, 1 to 10.	21	25.5 "
Zinc. sulph., gr. v to ʒj.	40	24.3 "
Acid. carbolic., gr. xij to ʒj.	29	23.6 "
Hyd. bichlor., gr. ⅙ to ʒj.	51	20.1 "
Potas. permang., gr. j to ʒj.	30	19.9 "
Hyd. bichlor., gr. ⅙ ʒj to (warm).	49	17.5 "

413

MILTON proposes the following plan. The abortive treatment may be instituted when patients present themselves before great pain and running have set in; in those who have had gonorrhœa

previously, and in whom the present attack does not appear to be very severe; and in those cases where the patient is willing to run any risk in the hope of an immediate cure. If the patient is unwilling to rest the next day, it is best to lay aside all thoughts of an abortive cure.

If this co-operation on his part can be obtained, the patient should be told to urinate, and the surgeon should then inject a solution of **nitrate of silver**, five grains to the ounce of distilled water. This should be retained two or three minutes. The deep, burning pain which ensues will be relieved by bathing the penis in hot water, and by taking a hot bath. He next prescribes four grains of calomel, followed by a saline, every two hours until several loose stools are procured. No food should be allowed except a little tea, gruel or toast.

After every stool the patient should inject with a solution of sulphate of zinc, from three to five grains to the ounce. This is to be kept in contact with the mucous membrane till slight burning is felt. Bathing the penis with very hot water will relieve the burning, scalding and weight.

The next day the discharge is thin and scanty, and the cure is usually completed in a day or two by continuing the same means; the patient using the zinc injection every time he urinates, and gradually increasing the strength to ten grains to the ounce. If this does not succeed at once, it will not succeed at all.

But few cases, after all, can be treated in this manner. The majority demand the following:—

R Potass. acetat.,.....3 v
 Sp. eth. nitros.,.....f3 iij
 Sp. junip. comp.,.....f3 ss
 Aq. menth.,.....q. s. ad f3 vj

M. S.—Two tablespoonfuls twice or oftener daily.

In severe cases he substitutes the chlorate of potassa for the acetate. If the bowels do not move several times a day, give the following pills:—

R Ext. colocynth. comp.,.....3 ss
 Pil. hydrarg.,.....gr. x
 Ext. hyoscyam.,.....gr. xx

M. f't. mas. et in pil. no. xij, div.

S.—One or two at bedtime.

If they should not act sufficiently, a saline draught may be given the following morning.

In forty-eight hours the discharge will show evidences of improvement, while the weight, tension, scalding and vesical irritability become less.

It is rarely necessary to continue the potassa mixture more than ten days. Tonics may be administered at the same time, if the patient be weak and low.

In most cases this treatment must be seconded by injections. In order to make these as efficient as possible, care must be taken to select a solution of such a strength as to act on the mucous membrane; to apply it over the whole of the diseased surface; and to see that it is doing no injury.

The nitrate of silver should be used *by the surgeon only*, every day until the discharge ceases. Begin with a solution of $\frac{1}{8}$ to $\frac{1}{2}$ grain to an ounce, and gradually raise to two to ten grains. A slight feeling of heat, for fifteen minutes after the injection, is all that is requisite. Undue irritation from any cause should warn us that injections of all kinds are to be suspended. The patient, meanwhile, is to use the sulphate of zinc, gr. ij, and the chloride, gr. 4, in an ounce of water, gradually increasing the strength so as just to keep up the same degree of action as at first. The addition of ten minims of spirits of camphor to each ounce of the solution appears to increase its efficacy.

The patient should always urinate before using the injection.

The syringe should be fitted with a silver or platinum tube, two inches long. Unless this be done, injections may be used for months without ever reaching the seat of the discharge.

The syringe should contain two drachms. When the injection is made, it should be retained until a feeling of warmth is produced.

The silver injection should be used daily until the discharge ceases, and for three days after: then, every other day, for eight days. If the symptoms point to extension to the membranous urethra, a syringe should be used with a tube long enough to carry the fluid to that part.

When the discharge is persistent, but has not extended beyond the penile urethra, he recommends a five grain solution

of silver to be applied on a slip of muslin or a sponge introduced through a canula.

If at the end of a week there should be no improvement, a **blister** should be applied to the penis.

In the female the same internal remedies are recommended. Local means should not be employed until the syringe can be passed into the vagina without causing pain. After a few days' rest, injections of warm water will be borne; and these may be followed by weak solutions of lead or zinc. The full-length hot bath is efficacious in relieving discomfort.

NIEMEYER recommended in high terms an injection consisting of half a drachm of **tannic acid** in half a pint of red wine.

We have used this in many cases. When the discharge has not yet become yellowish, the tannin and wine injection will very often abort the disease, in forty-eight hours. If not used until the pus has appeared, the disease will frequently be checked, even for weeks; but as soon as the tannin is discontinued, the gonorrhea will go steadily through all the stages which would have followed if the tannin had not been used.

Where motives of prudence demand the concealment of the disease for a time, this property of tannin is valuable; for by it the tell-tale discharge, with its stains and its odor, is kept in abeyance.

MILTON gives the details of a prolonged series of experiments with various remedies given internally. A fair and judicial trial was given to cubebs, sandal-wood oil, turpentine, kava-kava, mat-ico, ngan plang, gurjun, erigeron and other so-called remedies. None of these were found to be as efficient as copaiba; and even this latter proved uncertain, often inefficient, always disagreeable and sometimes dangerous. The most disastrous effects we have ever witnessed in the course of a gonorrhea followed the attempt of a pharmacist to abort the disease by the administration of copaiba.

Every substance used locally as an injection was also tested by Milton; but none gave results equal to those obtained from silver.

A recent writer recommends prolonged washing out of the urethra with dilute solutions of corrosive sublimate (1 to 40,000), used with a peculiar form of syringe, which allows a continuous flow, directed *towards* the meatus urinarius. The results, however, were no better than when simple warm water were used. Corrosive sublimate is so peculiarly irritating to the genito-urinary mucous membrane, that it should be used only with the utmost care.

We have used Milton's method sufficiently often to convince ourselves of its great value.

The application of cocaine to the prepuce and glans will be found an invaluable means of relieving the pain and distress attendant on the acute stage. The cocaine should be applied in the form of an ointment containing five grains to a drachm of lanolin.

RICORD's abortive treatment consists of rest, low diet, and, where there is pain, thirty or forty leeches to the perineum, followed by copaiba or cubebs, and mild injections of nitrate of silver. When the disease begins without pain he gives **drastics**, with astringent injections.

Whatever be the treatment adopted, it will be of the greatest assistance if the patient be confined to his bed on low diet for the first week.

In the July number of *The Medical World*, 1886, I introduced a new mode of treatment for urethral and vesical affections, which I called "subpreputial medication." It consists of introducing easily absorbed medicaments beneath the prepuce, on each side of the frenum, so as to be near the urethra. I made a series of experiments some years ago, but they were only partially successful because of the lack of an excipient which would be readily absorbed. The discovery of **lanolin** completely filled this want, and last June I began my experiments anew. I found that the pain of gonorrhea, priapism, irritable bladder and cystitis, were greatly relieved by inserting beneath the prepuce a piece about the size of a grain of wheat of the following: lanolin, thirty grains, rubbed with **morphine** five grains. It should be repeated several

times a day, according to the indications, and the part should be cleansed before each application. The proportion of morphine may be increased or diminished, according to requirements; but be sure to have the mixture strong enough to have a decided effect—you need not fear systemic poisoning. **Cocaine** used in the same way completely benumbs the penis, and either stops or greatly diminishes the discharge of gonorrhea. I found one-fourth of a grain applied twice daily to be efficient. Morphine and cocaine may be advantageously combined. **Atropine** may be found useful, used in the same way. Lanolin should always be used as the excipient. The lanolin is absorbed, carrying with it the remedy, and the full local effect of the remedy is obtained with but little systemic effect, and without disturbance to the urethral membrane. Although the profession has been a little slow about taking up this treatment, I believe that it has a future of much usefulness before it. (For particulars of experiments and argument, see editorial in *The Medical World* for July, 1886.) (C. F. T.)

GOUT.

Although hitherto **gout** has been almost unknown in America, of late it has become less rare; and as wealth and luxury increase, and are transmitted from one generation to the next, we may confidentially expect to become more intimately acquainted with this disease in the future.

LONGSTRETH says that too much stress cannot be laid on the enforcement of a proper mode of life. What this is, must be decided for each patient. Starvation is quite as injurious as the opposite. The vegetables which compose the bulk of the diet should not be of the watery, bulky and innutritious sort, and the meats should be light and easily digestible. Fats and oils, eggs, potatoes, farinacea, as well as strong tea and coffee, must be avoided.

The heartiest meal should be the breakfast. The patient must be warmly clothed, but not overloaded with wraps. Exercise, valuable as it is in the prevention of gout, is unsuited to the chronic malady with its visceral and articular complications. Passive motion should replace active exertion.

The special diet treatments, such as the **grape** or **whey** cures, are often useful in themselves, and as offering means of confining the patients to regulations which they are otherwise prone to overleap.

Water is too often omitted. The **alkaline** mineral waters have a high reputation in this disease. Their effects on the digestive apparatus must be watched.

The **lithia** salts have better effects, without the disadvantages of the ordinary alkaline waters.

In the treatment of the gouty paroxysm, **colchicum** is the specific. It should be given in all cases, unless there is an irritable condition of the digestive organs, fatty heart, or kidney disease.

The more chronic the disease the less useful is colchicum. We must guard against its purgative action, its disturbing effects on the nervous system, and its depressing action on the heart. With this drug should be given the alkaline carbonates or citrates. Local remedies are not essential. To abate the inflammation we require heat and moisture, combined with anodyne lotions.

In chronic gout, he prefers the alkalies and guaiac. The vegetable bitters are often needed to aid digestion.

ROBERTS recommends as preventives, moderation in eating, with a limited amount of meat. Celery is sometimes remarkably beneficial. Plenty of water should be taken, but not at meals. Alcohol should be taken in small amounts, if at all. Malt liquors are particularly injurious.

Carefully regulated exercise, care for the skin, baths, avoidance of colds, of worry and of excitement, and residence in a warm climate during the cold season are recommended. A threatened attack can often be averted by a **Turkish bath**, or by hydropathic regimen. Potassa and lithia are the most useful agents for the elimination of lithic acid. Saline aperients are often of value. The waters chiefly used are those of Bath, Buxton, Harrogate and Cheltenham, in England, and Carlsbad, Vichy, etc., in Europe. When any method of prevention has proved effectual, it should be persisted in, for each attack of gout predisposes to another.

In the treatment of the attack, the diet should be as low as is compatible with the patient's condition. **Colchicum** is

the most valued drug in the paroxysms of gout. There is no foundation for the belief that its use predisposes to the recurrence of the attack. The bowels must be kept acting at the same time, and lithia may be combined with the colchicum. Diluents should be given freely, and sweating induced by the hot air or vapor bath. Sleep should be secured by the aid of opiates, chloral, or bromide of potassium.

The affected part should be kept at rest, elevated on pillows, and wrapped in flannels and oiled silk. If the pain be considerable, hot applications may be used, with local anodynes.

HYDE SALTER recommends the following lotion :

R	Potass. iodidi,.....	3 j
	Potass. bicarbonatis,.....	3 j
	Aq. bullientis,.....	O j
	Tinct. opii,.....	f3 ij

M. S.—Apply to the affected part on lint, cover with oiled silk, and swathe the whole in a flannel bandage.

The American waters which approach most nearly to those of the greatest repute in Europe, are the Crab Orchard, of Kentucky. **Iodoform** has been used locally, and is said to give much relief. We have not heard of cocaine being employed in the same manner, but have no doubt it has been done.

HAY FEVER.

The American Hay Fever Association still holds its annual meetings in the highest attainable mountain-tops. The remedies which nearly every year sees heralded as “sure cures,” have not yet succeeded in reducing the membership of the Association to insignificance. **Cocaine** has earned the title of the best palliative, but its effects are not permanent.

DR. L. D. JUDD received the Lea Prize in 1876, for his thesis on the cure of hay fever by **galvanic baths**. In this essay he detailed a case in which this method accomplished a cure. No similar cures but the same agent have been since reported.

The most popular method now in vogue consists in the destruction of the hypertrophied membrane by the use of the

galvano-cautery. For details the reader is referred to the article on Chronic Catarrh. As a palliative, cocaine is unquestionably the most efficient agent yet introduced. A two per cent. solution may be injected into the nostrils with a medicine dropper. The relief is more lasting when four or eight per cent. solutions are applied. Some prefer this agent in the form of gelatin bougies. Disks are also used, containing cocaine in a concentrated form; but as cases have been reported of sloughing of the tissues to which they were applied, great care should be exercised in the use of these appliances.

The specialists in this department have extended their practice by endeavoring to remove all obliquities of the septum or of the other bones of the nasal apparatus. We know of a number of cases where such obliquity has existed for many years without doing any harm, and other cases in which the obliquity has been corrected by operation without doing any good. Unless the deformity is such as to interfere with the functions of the organ, it had better be let alone.

Some patients have found a residence in certain localities favorable to their cases. Such persons should if possible make such places their homes. The high table lands of the West should contain many localities where sufferers from hay fever can exist in comfort, and still enjoy the comforts of civilized life.

HEADACHE.

DAY's treatment of the various forms of headache is embodied in the following formulæ:—

R Potass. citrat.,..... $\mathfrak{z}$ j
 Inf. digitalis,.....
 Inf. buchu,..... $\bar{a}\bar{a}$ $\frac{3}{4}$ ss

M. S.—To be taken three times a day.

In uremic headache, with deficient renal action.

R Potass. bitart.,..... $\frac{3}{4}$ ss
 Syr. limonis,..... $\frac{3}{4}$ ss
 Aquæ ferventis,.....O ij

M. S.

To be taken during the day and night, in the same cases, where the urine is scanty and the bowels sluggish.

R Hydrarg. bichlorid.,.....gr. j
 Tinct. ferri perchlor.,.....
 Glycerini,.....āā ʒ ss
 Aquæ,.....ad ʒ xij

M. S.—A tablespoonful in an equal quantity of water, or one ounce of infusion of quassia, three times a day.

In anasarca and anemia, where the headache is due to renal congestion, and in some forms of syphilitic headache, when the cachectic state is well marked.

R Quininæ disulph.,.....gr. x-gr. xv
 Acid. sulph. dil.,.....℥ x
 Syrupi,.....ʒ ij
 Aquæ,.....ad ʒ jss

M. S.

To be taken in headache from malarial poisoning, two or three hours before the expected paroxysm. Afterwards, a third part three times a day till cinchonism is produced.

R Liq. cinchonæ,.....℥ xx
 Liq. potas. arsenit.,.....℥ v
 Aquæ,.....ad ʒ j

M. S.—To be taken three times a day, after food.

In neuralgic headache and cerebral anæmia.

R Liquor. potas. arsenit.,.....ʒ j
 Tinct. quininæ,.....ʒ jss
 Mist. camph.,.....ad ʒ vj

M. S.—ʒ ss three times a day, in a little water, after food..

In neuralgic and periodic headache.

R Liquor. potas. arsenit.,.....ʒ j
 Tinct. quininæ,.....ʒ jss
 Hydr. bichlor.,.....gr. ss
 Aquæ,.....ad ʒ vj

M. S.—A tablespoonful in a wineglassful of water, three times a day, after food.

In neuralgic headache, where a mercurial is desirable, and there is the history of syphilis.

R	Liquor. potas. arsenit.,.....	
	Liquor. potassæ,.....	āā 3 j
	Tinct. colchici,.....	3 ij
	Tinct. lavand. co.,.....	3 iij
	Aquæ puræ,.....	ad 3 vj

M. S.—A tablespoonful in a wineglassful of water, twice a day, after food.

In neuralgic headache associated with the gouty diathesis.

R	Tinct. quiniæ,.....	3 xiv
	Spt. chloroformi,.....	3 ij

M. S.—A teaspoonful in a wineglassful of water, twice or three times a day.

In neuralgic and nervous headache.

R	Tinct. quiniæ,.....	3 vj
	Potass. bromidi,.....	3 j-3ij
	Glycerini,.....	3 ij
	Mist. camphoræ,.....	ad 3 vj

M. S.—A sixth part twice or three times a day

In neuralgic and nervous headache.

R	Acid. hydrobromici,.....	3 vj
	Quiniæ disulph.,.....	gr. xij
	Inf. gent. comp.,.....	ad 3 xij

M. S.—Two tablespoonfuls twice or three times a day.

In neuralgic and nervous headache, where quinine alone disagrees.

R	Sodæ bicarb.,.....	
	Bismuth. subcarb,.....	
	Pulv. acaciæ,.....	āā 3 j
	Spt. amm. arom.,.....	3 ij
	Syr. zingib.,.....	3 iij
	Aquæ,.....	ad 3 viij

M. S.—Two tablespoonfuls three times a day, half an hour before food.

In dyspeptic headache with flatulence, acidity and pyrosis.

R	Amm. carb.,.....	gr. iv
	Aquæ,.....	3 j

M. S.—To be taken every three or four hours.

In dyspeptic, neuralgic, and nervous headache, and in some forms of gouty headache.

R Spt. amm. arom.,..... $\mathfrak{M}$ xl
 Spt. chloroformi,..... $\mathfrak{M}$ x
 Aquæ,.....ad $\frac{3}{4}$ j

M. S.—To be taken every three hours.

In dyspeptic and nervous headache.

R Sodæ citro-tart. efferv.,.....3 j-3 ij (B. P.)

S.—To be taken while effervescing in the third of a tumblerful of cold water, early in the morning.

As a mild aperient in dyspeptic or bilious headache, with nausea and sickness, and in plethoric headache.

R Magnes. sulphat.,.....3 vj
 Magnes. carb.,.....3 j
 Tinct. lavand. co.,.....3 iij
 Aquæ menth. pip.,.....ad $\frac{3}{4}$ viij

M. S.—A sixth part to be taken early in the morning, and repeated as may be necessary.

In dyspeptic and bilious headache with flatulence.

R Quininae disulph.,.....gr. xij
 Acid. sulph. dil.,.....3 ss
 Tinct. ferri chlor.,.....3 ij
 Spt. chloroformi,.....3 ij
 Magnes. sulph.,..... $\frac{3}{4}$ jss
 Syr. zingib., $\frac{3}{4}$ j
 Aquæ,.....ad $\frac{3}{4}$ xij

M. S.—Two tablespoonfuls three times a day

In neuralgic headache with constipation.

R Syr. ferri phosph. et quininae et strychninae, $\frac{3}{4}$ jss

S.—A teaspoonful in a wineglassful of water, three times a day, after food.

In neuralgic and nervous headache.

R Syr. ferri hypophos.,..... $\frac{3}{4}$ jss

S.—A teaspoonful in a wineglassful of water, three times a day, after food.

In neuralgic and nervous headache, where the hypophosphites are useful, and in some congestive headaches.

R Syr. ferri et calcii lactophosph.,..... $\frac{3}{4}$ ij

S.—One or two teaspoonfuls in a wineglassful of water, twice a day after food. Fifteen or twenty grains of bromide of potassium or ammonium may sometimes be added to each dose.

In similar cases to the preceding, marked by general debility and defective nutrition.

R Ferri citr. et quininæ,..... $\frac{3}{4}$ ss

Spt. chloroformi,..... $\frac{3}{4}$ j

Syr. aurant.,..... $\frac{3}{4}$ iij

Aquæ,.....ad $\frac{3}{4}$ vj

M. S.—A sixth part three times a day, after food.

In neuralgic and nervous headache, with anemia and depression, and in some congestive headaches.

Three to five drops of the liquor strychninæ, and half an ounce of the tincture of columbo, may be sometimes added to this prescription with advantage.

R Liquor. ferri dialysati,..... $\frac{3}{4}$ j

S.—Ten to thirty minims in a wineglassful of water, twice or three times a day.

In similar cases to the preceding, and especially in the anemic headache of children.

R Ferri amm. citr.,..... $\frac{3}{4}$ ij

Liq. potass. arsenit.,..... $\frac{3}{4}$ xl

Syr. zingib.,..... $\frac{3}{4}$ ss

Inf. calumbæ,.....ad $\frac{3}{4}$ viij

M. S.—Two tablespoonfuls twice a day, after food.

In nervous and neuralgic headache with anemia.

R Amm. bromid.,..... $\frac{3}{4}$ j

Spt. amm. arom.,..... $\frac{3}{4}$ ss

Aquæ,.....ad $\frac{3}{4}$ jss

M. S.—To be taken on rising in the early morning.

In some forms of nervous and congestive headache.

R	Potass. bromid.,.....	3 j
	Spt. amm. arom.,.....	3 ij
	Amm. carb.,.....	
	Sodæ bicarb.,.....	āā 3 ij
	Syr. aurant.,.....	3 iij
	Aquæ,.....	ad 3 viij

M. S.—A sixth part to be taken every four hours, while effervescing with acid. citric., gr. xiv., dissolved in one tablespoonful of water.

In the early stages of nervous and neuralgic headache, when there is nausea, and the tongue is coated.

R	Potass. bromid.,.....	3 ij
	Spt. amm. arom.,.....	3 iij
	Mist. camph.,.....	ad 3 vj

M. S.—A sixth part three times a day.

In nervous and neuralgic headaches, and where there is excitement and irritability.

R	Tinct. aconiti rad.,.....	3 ss
	Aquæ,.....	ad 3 iv

M. S.—A teaspoonful in a tablespoonful of water, every half hour till the pain is relieved.

In acute congestive headache, with flushed face and full pulse.

R	Amm. chlorid.,.....	gr. x-3 j
	Aquæ,.....	ad 3 jss

M. S.—To be taken three times a day.

In neuralgic and nervous headache, where *migraine* and *clavus* is specially marked.

R	Sodæ hypophosphitis,.....	3 ss
	Inf. calumbæ,.....	ad 3 vj

M. S.—A sixth part to be taken three times a day.

In neuralgic, nervous, and anemic headache.

R	Magnes. sulphat.,.....	3 j
	Quininæ disulph.,.....	gr. viij
	Acid. sulph. dil.,.....	℥ x
	Inf. rosæ co.,.....	3 viij

M. S.—Two tablespoonfuls twice or three times a day, after food.

In neuralgic and congestive headache, with constipation and full habit.

R	Potas. bicarb.,.....	
	Sodæ bicarb.,.....	āā 3 jss
	Vin. sem. colch.,.....	3 j-3 ij
	Syr. zingib.,.....	3 ss
	Aquæ,.....	ad 3 viij

M. S.—Two tablespoonfuls three times a day, with one tablespoonful of lemon-juice, while effervescing.

In gouty headache, and the headache of cerebral hyperemia.

R	Potass. iodid.,.....	3 ss-3 j
	Potass. bicarb.,.....	3 ij
	Vin. sem. colch.,.....	℥ xl
	Amm. carb.,....	gr. xxiv
	Syr. zingib.,.....	3 ss
	Aquæ,.....	ad 3 viij

M. S.—Two tablespoonfuls three times a day.

In rheumatic headache.

R	Potass. iodid.,.....	
	Amm. hydrochlor.,.....	āā 3 jss
	Inf. humuli,.....	3 vj

M. S.—A tablespoonful three or four times a day, in a wineglassful of water.

In rheumatic headache.

R	Potass. iodid.,.....	3 j
	Tinct. cinch. co.,.....	3 j
	Tinct. colch.,.....	3 j
	Aquæ cinnamom.,.....	ad 3 xij

M. S.—Two tablespoonfuls three times a day.

In rheumatic headache.

R	Potass. iodid.,.....	3 ij
	Liquor. hydr. bichlor.,.....	3 vj-3 jss
	Tinct. gent. comp.,.....	3 jss
	Aquæ cinnamom.,.....	ad 3 xij

M. S.—Two tablespoonfuls three times a day, in a wineglassful of water, after food.

In syphilitic and organic headache.

The mercury may be omitted, according to circumstances.

R	Potass. iodid.,.....	3 j
	Liq. arsenicalis,.....	3 j
	Tinct. quininæ,.....ad	3 iij

M. S. -A teaspoonful in a wineglassful of water, three times a day, after food.

In syphilitic headache.

R	Tinct. ferri chlor.,.....	3 ijss
	Acid. sulph. dil. vel spt. chloroformi,....	3 j
	Tinct. lavand. co.,.....	3 vj
	Syr. aurant.,.....	3 ss
	Mist. camph.,.....ad	3 iv

M. S.—Two teaspoonfuls three times a day, in a wineglassful of water.

In nervous headache from menorrhagia.

One of the prescriptions containing arsenic or ergot may be necessary, according to the discretion of the practitioner, or either of these remedies may be added to the formula.

R	Potass. bromid.,.....	3 j
	Syr. tolutani,.....	3 j
	Aquæ,.....ad	3 jss

M. S.—To be taken every night at bedtime.

As a sedative in the pain and sleeplessness of nervous and neuralgic headache.

R	Sodæ bicarb.,.....	3 jss
	Spt. amm. arom.,.....	3 ij
	Tinct. gent. comp.,.....	3 ss
	Syr. aurant.,.....	3 ss
	Inf. gent. co., ad.....	3 viij

M. S.—Two tablespoonfuls three times a day.

In nervous headache with dyspepsia, furred tongue, and acidity.

R	Acid. nitric. dil.,.....	3 j
	Acid. hydrochlor. dil.,.....	3 ij
	Liquor. strychninæ,.....	℥ xxxvj
	Inf. quassiaæ, ad.....	3 xij

M. S.—Two tablespoonfuls three times a day.

In nervous headache with a clean tongue and slow digestion

R Tinct. digitalis,..... $\overline{3}$ ss- $\overline{3}$ ij
 Mist. camphoræ, ad..... $\overline{3}$ vj

M. S.—A sixth part to be taken three times a day.

In the headache of cerebral anemia as a cardiac tonic, when the pulse is small and frequent, or there is palpitation.

R Tinct. belladonnæ,..... $\overline{3}$ ij- $\overline{3}$ iij
 Tinct. nuc. vom.,..... $\overline{3}$ j
 Syr. zingib.,..... $\overline{3}$ ss
 Aquæ, ad..... $\overline{3}$ vj

M. S.—A tablespoonful in a wineglassful of water, three times a day.

In some forms of anemic headache.

R Strychninæ sulph.,.....gr. ss
 Tinct. ferri chlorid.,..... $\overline{3}$ ij
 Glycerini,..... $\overline{3}$ ss
 Inf. gent. comp., ad..... $\overline{3}$ vj

M. S.—A tablespoonful in a wineglassful of water, three times a day, after meals.

In the headache of cerebral anemia with nervous exhaustion.

The infusion of quassia or calumba is preferable to gentian, in consequence of the decomposition of the iron in the latter preparation.

R Amm. carb.,..... $\overline{3}$ ss
 Tinct. calumbæ,.....
 Syr. aurant.,.....āā $\overline{3}$ iij
 Aquæ, ad..... $\overline{3}$ vj

M. S.—A sixth part to be taken twice a day.

In the headache of cerebral softening.

R Spt. chloroformi,.....℥ v
 Liq. ext. ergot,.....℥ xx- $\overline{3}$ ss
 Aquæ, ad..... $\overline{3}$ j

M. S.—To be taken three times a day.

In the congestive and organic forms of headache in advanced life.

R Hydrat. chloral.,.....℥ j
 Aquæ, ad..... $\overline{3}$ jss

M. S.—To be taken at bedtime.

In the headache of cerebral hyperemia and vascular excitement.

R	Magnes. sulph.,.....	3	ij
	Sodæ bicarb.,.....	3	ij
	Liquor. taraxaci,.....	3	vj
	Tinct. zingib.,.....	3	j
	Aquæ, ad.....	3	vj

M. S.—A sixth part to be mixed with acid. tart., $\mathfrak{D}$ j, previously dissolved in a tablespoonful of water, and taken early in the morning, while effervescing.

In dyspeptic and plethoric headaches with sluggish liver.

R	Potass. bromid.,.....	3	ss
	Tinct. cannabis Ind.,.....		
	Tinct. hyoscyami,.....	āā	3 ss
	Aquæ, ad.....	3	j

M. S.—To be taken at bedtime.

In the sleeplessness of hyperemic headache.

R	Hydrat. chloral.,.....		
	Potass. bromid.,.....	āā	gr. x
	Syr. rhæados,.....	3	j
	Aquæ, ad.....	3	jss

M. S.—To be taken at bedtime.

In the headache of cerebral hyperemia and nervo-hyperemic headache with nervous excitement.

R	Potass. bromid.,.....	3	ij
	Syr. aurant.,.....	3	ss
	Inf. gent. comp.,.....	3	iv
	Aquæ, ad.....	3	vj

M. S.—A sixth part to be taken three times a day.

In nervo-hyperemic headache with loss of appetite and debility.

R	Ferri amm. citr.,.....	3	j
	Potass. bromid.,.....	3	ij
vel	Amm. bromid.,.....	3	ij
	Syr. zingib.,.....	3	ss
	Aquæ, ad.....	3	vj

M. S.—A tablespoonful in a wineglassful of water, twice a day, at 11 A. M. and 4 P. M.

In the headache of cerebral anemia.

R Potass. bromid.,.....	℥ j
vel Amm. bromid.,.....	℥ j
Tinct. valerian. co.,.....	℥ j
Syr. aurant. flor.,.....	℥ j
Aquæ cinnamomi, ad.....	℥ jss

M. S.—To be taken twice or three times a day.

In some forms of neuralgic headache.

R Pulv. ipecac. comp.,.....	gr. x-gr. xv
-----------------------------	--------------

Fiat pulvis.—To be taken at bedtime, in gruel.

In rheumatic headache.

R Ferri sulphat.,.....	
Pulv. zingib.,.....	āā gr. vj
Ext. aloes. aquos.,.....	
Quinina sulph.,.....	
Saponis,.....	āā gr. xij

Misce et divide in pilulas xij.—One to be taken twice a day, after food.

In the headaches of cerebral anemia and neuralgia, where the bowels are sluggish.

R Ext. aloes Barb.,.....	gr. ½
Pulv. ipecac.,.....	gr. j
Pil. rhei comp.,.....	gr. iij

Misce et fiat pilula.—To be taken daily, before dinner.

In the headache of cerebral anemia and dyspeptic headache, where intestinal action is sluggish.

R Quinina sulph.,.....	
Ext. aloes aquos.,.....	āā gr. xij
Pulv. capsici,.....	
Pulv. ipecac.,.....	āā gr. vj
Glycerini,.....	q. s.

M.—Ut fiant pilulæ xij. One to be taken daily before food, at midday.

In similar cases to the preceding, and especially in women with small assimilative power.

R Pil. hydrarg.,.....	gr. xij
Pil. rhei comp.,.....	℥ ss
Ext. hyoseyami,.....	gr. x

Misce et divide in pilulas xij.—One or two at bedtime twice a week.

In dyspeptic headache, and in the headaches of advanced life with a sluggish liver.

- ℞ Ext. nuc. vom.,gr. ss
 Pil. rhei comp.,gr. iij
 Pulv. capsici,gr. ½

Misce et fiat pilula.—To be taken daily at 12 o'clock. (Samaritan Hospital.)

An excellent pill to keep the bowels regular in nervous headache, where the muscular fibre of the intestines requires stimulation.

- ℞ Ferri sulphat.,
 Quininæ sulph.,āā gr. xij
 Pulv. rhei,gr. ix
 Pulv. zingib.,gr. vj

Misce et divide in pilulas xij.—Take one three times a day.

In neuralgic headache and atonic dyspepsia with flatulence.

- ℞ Pil. aloes et assafoetid.,3 j

In pilulas xij.—One or two at bedtime every night.

In nervous headache with flatulence and constipation.

- ℞ Pil. aloes et ferri.,3 j

In pilulas xij.—One or two at bedtime every night.

In neuralgic and nervous headache with constipation.

- ℞ Pil. aloes et myrrhæ.,3 j
 Ferri sulphat.,gr. vj

Misce et divide in pilulas xij.—Two occasionally at bedtime.

In nervous or anemic headache with torpid colon.

- ℞ Zinci valerian.,gr. xij
 Pulv. rhei,gr. xx
 Pulv. zingib.,gr. vj
 Ext. gentian.,gr. xij

Misce et divide in pilulas xij. One to be taken three times a day.

In neuralgic headache.

- ℞ Phosph. pur.,
 Strychninæ,āā gr. j
 Conf. rosæ,q. s.

Ut fiant pilulæ L.—Take one three times a day.

In some forms of neuralgic headache.

R Phosph. pur.,.....gr. j
 Conf. rosæ, q. s.

Ut fiat pilulæ xxxvj.—Take one three times a day.

In similar cases to the preceding.

R Phosph. pur.,.....gr. $\frac{1}{4}$
 Ferri redact.....gr. xx
 Ext. nuc. vom.,.....gr. ij

Misce et divide in pilulas viij.—One to be taken twice a day.

In neuralgic headache.

These prescriptions may be varied according to the state of the patient. Valerianate of zinc and cannabis Indica may sometimes be added.

R Phosph. pur.,.....gr. j
 Quininæ sulph.,.....
 Ferri sulph.,.....āā gr. xvj
 Ext. rhei,.....Ḑ j

In pilulas xxxvj.—One to be taken three times a day.

R Ext. colocynth,.....Ḑ ij
 Ext. rhei,.....
 Pulv. scammonii,.....āā gr. x

In pilulas xij.—Take one occasionally, at bedtime.

In nervous or dyspeptic headache, as an active aperient.

R Zinci valerian.,.....
 Ferri sulph.,.....
 Ext. rhei,.....āā gr. xvj

Misce et divide in pilulas xvj.—One to be taken three times a day.

In nervous headache.

R Zinci sulph.,.....gr. j
 Ext. nuc. vom.,.....gr. ss
 Conf. rosæ, q. s.

Ut fiat pilula.—To be taken twice a day.

In nervous headache.

R Pulv. ipecac.,.....gr. vj
 Ext. aloes Barb.,.....gr. xij
 Ext. taraxaci,.....3 ss
 Saponis,.....gr. x

Misce et divide in pilulas xij.—Take one every night, or before dinner, daily.

As a laxative in nervous headache, to assist digestion.

℞ Ext. gentian.,.....
 Ferri sulph.,.....
 Pulv. digitalis,.....āā gr. xij
 Pulv. cinnamomi,.....gr. vj

Misce et divide in pilulas xij.—Take one three times a day.

In the headache of cerebral anemia, where digitalis is required. Where there is unsteadiness of the heart's action after food, and there is flatulence, the iron may be advantageously omitted, and pulv. zingib. substituted for pulv. cinnamomi.

℞ Ext. aconiti,.....gr. vj
 Ext. hyocyami,.....gr. xvij
 Ant. et pot. tart.,.....gr. j

Misce et divide in pilulas vj.—Take one every night.

In the headache of active cerebral hyperemia, where depressants are required.

℞ Bismuth. subcarb.,.....Ḑ j

To be taken in a wineglassful of water twice a day, before meals.

In subacute congestive headache, with flatulence and discomfort after food.

℞ Zinci sulph.,.....gr. x
 Aquæ,.....Ḑ jss

Fiat haustus.—To be taken as an emetic, followed by drinking freely of warm water till vomiting ensues.

In some forms of bilious and nervous headache.

℞ Pulv. ipecac.,.....Ḑ j
 Aquæ,.....Ḑ jss

Fiat haustus.

In the same cases as the preceding.

℞ Ung. veratrinæ.....Ḑ j (B. P.)

A little to be rubbed into the affected temple till the pain is relieved.

In neuralgia and some forms of nervous headache, where the pain is localized.

℞ Ung. aconitinæ,.....Ḑ j (B. P.)

To be used in the same way, and for the same cases as the preceding.

In using all these ointments, care is required to apply very small quantities, and never to the broken skin. A tingling sensation commonly precedes the cessation of the pain.

In general, it will be found that **bromide of potassium** is the most suitable remedy for congestive headache, for that due to sexual excess or excitement, and that which comes from the administration of iron in chlorosis.

Aconite finds its most appropriate use in relieving the headache of ovarian congestion; especially that which comes from "catching cold" at the menstrual epoch.

Hydrobromic Acid relieves the headache which follows the use of quinine.

For true dyspeptic headache, which is comparatively rare, the alkaline carbonates, taken in hot water before meals, give relief. In nervous headache, due to mental anxiety or prostration, the most efficient remedies are **caffeine**, guarana, theine and kola, given in small doses, in hot water and frequently repeated. A cup of strong tea or coffee frequently proves useful. Or one grain of **caffeine** may be given every hour. For the headache which follows undue mental excitement or prolonged exertion, **coca**, in the dose of a teaspoonful of the fluid extract, or grain doses of **iodoform**, are the most efficient remedies. In true neuralgic headache, or hemicrania, **ANSTIE'S** treatment is most generally indicated. The patient is directed to take a hot mustard foot-bath, inhaling the steam, and get into bed, wrapped up in warm blankets, with hot bricks to the feet. A scruple of **chloral** is then administered. The patient goes at once to sleep, and wakes free from headache.

In the severer forms of hemicrania this will not avail; and recourse must be had to the pernicious and dangerous use of alcohol or hypodermics of morphia, or far better, to the use of the **galvanic current**. This is one of the most certain remedies known to the profession. After a neuralgia has been once conquered by this means, it is usually much more amenable to treatment subsequently.

In some obstinate cases the following prescription has proved potent in breaking the severity of the acute attack:

- | | | |
|----|------------------------------------|-------------------|
| R | Phosphori, | gr. $\frac{1}{2}$ |
| | Quinin. sulph., | gr. lx |
| | Strychnin. sulph., | gr. $\frac{2}{3}$ |
| M. | F't. mas. et in pil. no. xx div. | |
| S. | One pill an hour before each meal. | |

Headaches of the neuralgic type occurring in plethoric persons (especially occipital neuralgias), should be *crushed* by large doses of bromide of potassium (gr. xxx) repeated every half hour until relief is experienced. Headaches of every description due to catching cold may be dissipated by a Turkish or vapor bath, followed by a cup of hot punch.

BEARD recommended, for nervous headaches, half a drachm of caffeine in an ounce of elixir of guarana—a teaspoonful at each dose.

HEARTBURN.

FENWICK recommends antacids and charcoal. Fat, sugar and starch must be avoided. Tobacco will keep up the disease; alcohol should be used sparingly, the least harmful form being brandy with Vichy water. He obtained good results from the use of gluten bread. Some pregnant women find lettuce useful.

We would make the prohibition of alcoholic beverages absolute. Carbonate of potash, with small doses of rhubarb and ipecac. allay the pain and stimulate a healthy secretion of gastric juice, especially if taken hot, on an empty stomach. Soda-mint gives relief quite speedily. Nitro-muriatic acid, taken before meals, will sometimes cure the affection. Oxide of manganese has proved useful in our hands, but never curative. In one case complete relief was obtained by limiting the diet for some weeks to oat-meal "scones." If evidences exist of decomposition of the gastric contents, the following formula will give relief:

R Acid. carbolicæ,.....gr. x
 Testæ preparatæ,.....ʒj
 M. S. A large pinch to be taken whenever pain is felt.

HEART DISEASES.

1. ACUTE PERICARDITIS.

LOOMIS speaks of the importance of treating uremia, rheumatism, pyemia, or any other affection which coexists. **Stimulants** are required in all acute diseases with depression, especially in septic or pyemic cases. The favorite local applications are hot

anodyne poultices over the heart. Absolute rest in bed is enjoined. **Opium** is the most valuable internal agent. It should be given in doses just large enough to relieve pain, and allay irritable cardiac action. The largest dose should be that given at bedtime. To promote the absorption of the fluid, he advises iron, stimulants and a highly nutritious diet.

During convalescence the heart is weak, and over-exertion must be avoided. Paracentesis should be practised if it be certain that pus is present. The best points are in the fossa between the costal and ensiform cartilages on the left side, or in the fifth left interspace near the junction of the sixth rib with its cartilage.

BALFOUR gives **morphine** enough to relieve pain, enjoins perfect rest, and adds digitalis for dirotism or failure of the heart (ten minims of the tincture every four hours). With this he conjoins the use of **chloral** in five or ten grain doses, which may very well replace the morphine. A few leeches often give great relief. In performing paracentesis he cautions against the use of too powerful an aspirator, as syncope may be induced by withdrawing too rapidly a pressure to which the heart has become accustomed.

PAUL recommends **blisters**, (in which both the authors already quoted dissent from him), and **ice bags**, which are generally recommended by the German authors.

KRAUSE also makes use of the cold applications, without digitalis, for three days only.

FLINT used saline purgatives in the early stages, followed by opium, mild local applications, and finally counter-irritants to promote absorption.

RINGER recommends **aconite** for extreme pain and violent throbbing.

LYNCH recommended **veratrum viride** in combination with opium.

2. ACUTE ENDOCARDITIS.

LOOMIS enforces absolute rest in bed, with the temperature kept constantly above 70°. The chest is covered with flannel, and exposure is avoided. Small doses of opium are to be given, but not as freely as in pericarditis. The strength must be sustained by concentrated food and **iron**. Ulceration or septic cases call for the free use of **alcohol**, quinine and iron. If Bright's disease be present, the urea should be eliminated rapidly.

BRUCE calls attention to the importance of preventing the disease, by the free use of **salicylic acid** or its salts, in rheumatism. Caution is demanded in the use of anodynes, and local applications of poultices, aconite and belladonna are to be preferred to opium and chloral. In ulcerative cases, **quinine** in large doses and salicylic acid are the most promising remedies, together with supporting treatment. The return to work should be very gradual. Rest for several weeks at this stage is of more importance than medical treatment.

3. MYOCARDITIS.

BRUCE says that the indications are to support and strengthen the heart, and relieve the pain and distress. He uses poultices and belladonna locally, and mustard. The smallest exertion must be avoided. Food must be given in small quantities, and of highly nutritious and digestible quality. The urine must be kept flowing as freely as possible. **Alcohol** is urgently called for, while *digitalis*, ammonia and other cardiac stimulants should be given cautiously.

4. DILATATION.

BRISTOWE states the general fact that the treatment is that of cardiac debility and distention.

The chief indications are rest, avoidance of cold and wet, the use of nutritious and easily digested food, attention to the bowels, kidneys and skin, and the use of cardiac tonics. In the latter category **digitalis** is the most popular agent. It should be combined with iron or vegetable tonics. Great lividity and stagnation of the blood may require venesection.

LOOMIS says that while dilatation is incurable and palliation but temporary, two objects remain to be attained: the maintenance of nutrition, and the prevention of irregular and violent cardiac action.

An exclusive milk diet is often most advantageous. Stimulants must only be taken in small quantities and with food. **Iron** may be given if anemia be present. As a rule it is a safe drug to administer daily. **Strychnine** and **arsenic** may be given with iron. The greatest amount of fresh air and the best hygienic surroundings should be secured. Sudden and violent exertion must be strictly avoided, as a single strain may cause death. Flannel should be worn next the skin. A dry, bracing air usually suits these cases best. All exhausting discharges must be checked. Abdominal plethora necessitates occasional mild purges. Vegetable tonics and mineral acids should be given if needed for feeble digestion.

The most serviceable cardiac tonic is **digitalis**. It can be given in full doses, when cyanosis and œdema indicate the need for this drug. After these symptoms are relieved the same remedy should be continued in smaller doses for a long time. When digitalis fails to control the heart's action, belladonna or opium may be combined with it. It is well to postpone the use of digitalis as long as possible. For the spells of nervous cardiac excitement, antispasmodics or morphine may be used. Dyspnea may be relieved by **lobelia**, hydrocyanic acid, cannabis Indica, ether, and dry cupping to the spine.

There is no question but that the progress of this disease is delayed most surely by measures which keep up the nutrition of the heart. The avoidance of violent exertion, but the systematic employment of moderate exercise, especially of the passive variety, should be enjoined. Malt liquors must be forbidden, as they tend to produce fatty degeneration. Wine in small quantities, taken with the food, is of inestimable value. While iron and quinine are the standard remedies in this condition, they should not be given too persistently; but judicious intermissions should be made in their use, when they can be replaced by strychnine, arsenic, or cod-liver oil with lime. The malt extracts are of great value, their use favoring thorough digestion of the starchy elements of

the food, and thus lessening the formation of fatty tissues. Rubbing the body with hot salt water, and regular massage, are to be preferred to more active modes of taking exercise.

Digitalis should only be used when cyanosis and dropsy demand relief. It should then be given in full doses—twenty to thirty drops of the tincture every four hours. It should not be given for more than three days. The effects of *digitalis* in contracting the coronary arteries, if continued long would interfere with the nutrition of the heart-substance. When *digitalis* finally ceases to relieve the debilitated organ, **caffeine** will keep up the circulation for a little farther time. The latter drug may be prescribed in doses of one to three grains every four hours. Nitro-glycerine fulfils the same indication as alcohol, but is more available for hypodermic use. The dose is $\frac{1}{100}$ to $\frac{1}{20}$ grains, in alcoholic solution. Ammonia and nitrite of amyl are useful in attacks of syncope. The tincture of **quebracho** is one of the best remedies for the dyspnea.

By the judicious use of a proper regimen, of the above tonics, and the occasional administration of *digitalis*, life may be prolonged for an indefinite period.

5. FATTY DEGENERATION.

QUAIN recommends the same general dietetics and hygienic regimen as in dilatation. Walking up hill or hurrying up stairs must be avoided. The most appropriate tonics are iron, phosphorus, and strychnine. Special attention must be paid to the kidneys and liver. In syncope, besides the usual stimulants, the **galvanic current** may be applied interruptedly from the back of the neck to the precordium.

SCHROETTER says that for those who tend to form an excess of fat, we must institute the regimen suitable for corpulency, avoiding particularly the fats, starches, sugar and beer.

If a large deposit of fat exists, the alkaline carbonates and the sulphates of soda and magnesia are indicated.

In the other forms the treatment must be symptomatic; designed to strengthen the system in general, and make the functional activity of the heart equal to its demands.

For dyspnea he approves of the treatment described by STOKES, and discovered by a patient, viz.: bending the head downward between the knees.

LOOMIS stops the use of alcohol, and condemns the use of digitalis. With the latter suggestion we coincide, for the reasons mentioned in the preceding section. But we cannot without risk deprive the patient of his accustomed stimulus. Small amounts of good, generous wine do not favor fatty degeneration, and may be permitted.

6. HYPERTROPHY.

WARDELL says that hypertrophy being a conservative change the object is to remove the primary disease if possible. Any measures which lower the nutrition simply favor the occurrence of dilatation. All mental and bodily exertion which excites the circulation should be avoided. Alcoholic stimulants must be interdicted. The diet and digestion should receive care; flatulence being injurious. For excessive cardiac action, digitalis, conium, belladonna and hydrocyanic acid are indicated.

SCHROETTER says that all we can do is to ward off injurious influence and attack the symptoms. Of these the most important is the over-action of the heart. Severe physical exertion must be avoided, as well as the use of strong coffee, tea or wine, and strong tobacco. The bodily functions must be maintained in proper condition.

The persistent and faithful use of **cold** is fitted most wonderfully to quiet the over-activity of the heart, and is best applied by the use of ice-bags. **Digitalis**, as it is only temporarily required, is quite in place here. *Veratrum viride* is a more uncertain remedy, and apt to cause sudden collapse. Quinine in large doses is often of value.

We cannot agree with these authors in recommending digitalis. In one case this drug was prescribed for a patient, and after taking the second dose, the man fell dead. His heart weighed twenty-six ounces. A case of primary hypertrophy has been under our care for five years; during which time the patient has

taken no medicine except **aconite**, which he uses at his own discretion; increasing the dose until relief is experienced. But the avoidance of alcohol, coffee, hot soups and drinks, violent or prolonged exertion, and mental excitement, are of far more importance than the use of sedatives.

7. PALPITATION.

SHAPTER advises avoidance of the cause, and the use of means to diminish the susceptibility of the nervous system. In severe attacks he administers an **alkali** with warm restoratives. In protracted and severe attacks, **ether**, ammonia, digitalis, aconite, colchicum, chloral and the bromides may be resorted to.

SCHROETTER lays the same stress upon the importance of preventing the attacks by instituting proper hygienic rules.

To relieve the paroxysms he recommends the application of **cold**, in the form of ice bags laid over the heart. Next to this he places digitalis and morphine. Hydrocyanic acid and chloral are often serviceable. Chloroform inhalations should only be resorted to as a last remedy, as patients quickly acquire the chloroform habit.

LOOMIS gives **iron** for anemia, relieves uterine derangements in hysteria, and stops the excessive use of alcohol, tobacco, tea or coffee. When no special cause can be discovered, he directs the body to be sponged night and morning with cold water, and that the patient shall take exercise moderately in the open air, and live on a nutritious diet.

During the attack he gives ether, ammonia, chloral, camphor, musk, valerian or asafetida, but not digitalis nor the narcotics.

An important element in the management of a paroxysm is the physician's confident assurance that there is neither disease of the heart nor any danger in the attack.

None of these authors speak of the most reliable of all remedies in the paroxysm—**Hoffman's anodyne**, in drachm doses, but little, if at all, diluted. The true anodyne is difficult to obtain; a cheaper imitation having for years supplanted it in the market. We would advise physicians to procure the materials

and prepare this valuable antispasmodic with their own hands. Next to this comes the ammoniated tincture of valerian.

For the intervals, we have obtained good results from the long continued use of **arsenic** in full doses, and belladonna in very small ones.

8. VALVULAR DISEASES.

BALTHAZAR FOSTER says that as valvular defects are practically incurable, our treatment must be directed to aid the compensatory hypertrophy, and check the development of the consequences. The maintenance of the nutrition of the heart is therefore the main object of the treatment.

The diet should contain a large proportion of albumen, with some wine, and a chalybeate water. Violent exercise and emotion should be forbidden, especially in mitral disease. In aortic cases, steady exercise without strain is beneficial. The chief object is to prevent anemia. Tobacco is injurious. In early life over-exertion and exposure to cold, in adult life emotional, sensual and dietetic excesses, are the chief dangers. Women with valvular disease should not marry.

The first symptoms felt are palpitation and pain. Until these are relieved by hypertrophy they require treatment by **digitalis**, m x , of the tincture, with chloric ether, in mitral disease. In aortic cases, **ether**, diffusible stimulants, small doses of opium and belladonna, with the latter applied locally, are valuable.

The pain may require leeches, but generally yields to mild counter-irritation. Internally the **bromides** are useful, with ether and ammonia if the pain occur paroxysmally. When compensation has been established, the indication is to keep up the nutrition of the heart with the regimen detailed above and the use of tonics. *Prunus Virginiana* is useful in some cases. The bowels and kidneys must be kept in good working condition.

Bronchial catarrh requires the ordinary external and internal treatment. Capillary bronchitis may necessitate bleeding to relieve the over-distended heart.

For the visceral congestions our remedies are **diuretics**, and, later, hydragogues. An occasional purgative, with a diuretic, aided by cupping, poultices, or a little blister over the loins,

with rest and stimulants, will often save the worst case of cardiac dropsy.

For dyspnea and insomnia he recommends **morphine** hypodermically. It often acts like a charm, and may be used in the worst cases of mitral and aortic disease, though cautiously. Chloral and the bromides, alone or combined, are sometimes useful in the insomnia, but must be used with care. The inhalation of **compressed air** sometimes relieves dyspnea. When the diuretics and hydragogues fail to relieve the dropsy, the limbs may be punctured with benefit. Frictions often relieve the anasarca.

The main reliance is on **digitalis**. It is most valuable in mitral disease, with cyanosis, distended jugulars, dyspnea, congested viscera, dropsy, scanty urine, tumultuous heart action, and quick, irregular, failing pulse.

In aortic disease it is less valuable, unless the mitral valve is also affected.

In aortic insufficiency the pulse must be increased in frequency by the use of ether and ammonia. If the hypertrophy be excessive, digitalis is useful in quieting palpitation, reducing frequency of the pulse, and relieving headache. **Caffeine** and veratrum relieve these symptoms as well; but the quickest and most certain remedy is the inhalation of a few drops of **nitrite of amyl**.

In aortic stenosis little treatment is required.

This author clings to digitalis as his sheet anchor in nearly all cardiac affections. He judges of its need by the effect on the kidneys—an increase of the urine being the best test of the beneficial action of the drug. He claims that digitalis increases the nutrition of the heart by its stimulant effect on the coronary arteries. This is not in accordance with the present teaching, which sees in the continued use of fox-glove a cause of innutrition of the cardiac muscle, from contraction of the calibre of the coronary arteries. This latter view harmonizes with the observations of the great clinical observers like Niemeyer, who cautioned us against continuing the use of this drug too long. Probably, also, the notion of its cumulative action arose from the same source. It may be well to state that contrary to general belief, the infusion of digitalis is not a reliable preparation—the digitaline not being present in a soluble form. The tincture is to be preferred.

For aortic stenosis, **nitro-glycerine** bids fair to take the highest place.

The results of treatment in valvular affections are very satisfactory. With proper management and reasonable docility on the part of the patient, life may be prolonged indefinitely: in fact, so long that it may be doubted whether the valvular lesion really shortens life at all.

ROSENSTEIN gives as the indications, to advance existing compensation, to maintain it, and to moderate over-compensation.

He cautions against the use of any but the weakest tea or coffee, of strong liquors, and of much smoking. He favors the use of light beer and good wine. But the best means of favoring digestion are fresh air and exercise. Severe exertions like mountain climbing, should be avoided.

The sovereign remedy which may be used in every stage of valvular disease, with merely variations in the doses, is **digitalis**. Its combination with iron is specially serviceable.

But as long as possible, we should hesitate to use any drugs except tonics. The long continued use of digitalis acts injuriously to the digestion.

Digestive troubles may at first be met by rhubarb, quassia and Kissingen water. For dropsy he gives:—

R	Potass. acetat.,.....	3 ij
	Tinct. ferri acetat. eth.,.....	ʒ xlv
	Syr. rubi idæi.,.....	f 3 v
	Aquæ,.....	f 3 vj

M. S.—f 3 ss as needed.

He recommends also the vinegar of squills, saturated with carbonate of potash.

He speaks very favorably of the treatment by compressed air, although the good effects are not as lasting as those of digitalis. Respiration of compressed air would be indicated in mitral disease, and in aortic stenosis with deranged compensation. In aortic insufficiency, digitalis is a means of moderating over-compensation, and must then be given in larger doses. Respiration of rarefied air would be indicated when we wish to increase the tension in the pulmonary circulation. For the relief of pain he

prefers morphine. Chloral should only be given with the greatest caution. **Croton-chloral** gives better results.

LOOMIS has published several cases where aortic or mitral disease, previously tolerated or even unsuspected, became aggravated to such an extent that death followed shortly, when the patients ascended to a height of 2000 feet or more above the sea-level.

That these effects are not uniform is shown by a letter of Dr. SUDDUTH, published in *The Medical World*, December, 1886, in which he states that although suffering for years with mitral stenosis, he had just taken a walking tour among the Alps, ascending 12,000 feet, with decided advantage. Dr. Sudduth, however, took his exercise wisely, knowing how much he could undertake judiciously.

For Aortic disease, LOOMIS sums up the treatment in three words: rest, diet, and regimen. For high arterial tension he gives **aconite**. For aortic incompetence he recommends **arsenic**, with digitalis and iron. Pulmonary engorgement may necessitate **venesection**.

BRUEN found **convallaria** useful in mitral obstruction, before fatty degeneration had appeared. It is more efficient in functional disorders.

SEÉ treats the dropsy with squill and bromide of potassium; the dyspnea with iodide of potassium and chloral.

RICHARDSON, also, speaks highly of iodide of potassium.

We have more than once observed the disappearance of a valvular murmur under the influence of this drug.

GERHARDT treats fibrinous deposits by the use of alkaline inhalations.

R Potass. bicarb.,.....gr. v
Aque bullient,.....f℥j

M. S.—For inhalation.

It does not seem probable that sufficient alkali can be thus introduced into the circulation to exert a solvent action on these vegetations, but GERHARDT claims good results for the practice.

HEMATEMESIS.

FENWICK says that the patient should be maintained in a recumbent posture, and kept perfectly quiet. All food must be forbidden, and pieces of ice placed in the mouth to suck. If faintness be present, it is better not to give brandy, which almost always brings on vomiting, but to apply ammonia to the nostrils; or, if necessary, an enema containing brandy may be given.

The best styptics are gallic acid, alum, and acetate of lead. The gallic acid may be given in ten grain doses, along with ten or fifteen minims of dilute sulphuric acid, and should be repeated frequently. Alum may be prescribed in infusion of roses; and the acetate of lead in two-grain doses in the shape of a pill, or combined with acetic acid. Oil of turpentine is also used. Where the bleeding is slight, and there is good reason to believe it arises from portal congestion, the best treatment is to give a small dose of calomel, followed by sulphate of magnesia and dilute sulphuric acid, in infusion of roses, every three or four hours, until purging is produced.

JACCOUD gives the preference to **ice**, internally and externally. Dry cups on the limbs and trunk are useful when the hemorrhage is copious.

HILLER calls attention to the fact that hematemesis is sometimes due to visceral syphilis, when specific medication is indicated.

Apart from these cases, the bichloride of mercury, given in doses of gr. $\frac{1}{24}$ every four hours, will frequently prove effectual in checking the hemorrhage.

BARTHOLOW says: The hemorrhage which is a vicarious menstruation is relieved by diverting the flux to the uterus, its natural outlet. This is best accomplished by the use of the appropriate emmenagogues during the interval, of hot sitz-baths and hot vaginal douches, at the time of the expected flow. In the case of married women, leeches may be applied to the cervix uteri at the time of the menstrual molimen. When due to arrested hemorrhoidal discharge, leeches should be applied to the anus and aloes be administered.

When an impoverished condition of the blood exists, or when

the so-called hemorrhagic diathesis is the cause of hemorrhage, effort must be directed to improve the composition of the blood, and to elevate the tonus of the vessels. When the hemorrhage is occurring, the most absolute repose must be enjoined, the patient should swallow as rapidly as possible pellets of ice; **ergotin** should be injected subcutaneously, as much as three to six grains at a time, and it may be repeated as often as necessary; a bag of ice should be put on the epigastrium; and large draughts of iced alum-whey should be swallowed every few minutes. Ligatures around the thighs, tied tightly enough merely to stop a part of the venous blood in the lower limbs, are excellent adjuncts to the measures above proposed. If this be not done, the legs should hang down out of the bed, and the shoulders be somewhat raised.

The salts of **iron** (chloride, nitrate, subsulphate) may be administered for their styptic effect. A teaspoonful of the tincture of the chloride may be given in four ounces of ice water. An objection to these ferruginous styptics is the very voluminous and nauseating coagula which they form, and which are apt to excite vomiting. **Brandy** is an excellent local astringent, and is generally serviceable in these cases owing to the syncope. The stimulant is beneficial in raising the arterial tension, by furnishing a force for the vaso-motor system, which is in a state of paralysis. **Tannic acid** is a safe styptic, which can be used frequently and in relatively large (ten grains) quantity. **Sulphuric acid** may be employed successfully, and this has the advantage that a small quantity imparts astringent property to a large amount of water. Next to **alum-whey** it is the most efficient hemostatic. If vomiting be obstinate, the one-sixteenth grain of **morphine**, hypodermatically, will stop it, and contribute materially to the arrest of the hemorrhage.

If the hemorrhage has been sufficient to cause dangerous syncope, the inhalation of **nitrite of amyl** may arouse the failing heart, or the injection of **digitaline** may be tried. LEUBE advises the subcutaneous injection of **ether**—a syringe-ful every few minutes—in cases of dangerous syncope from the hemorrhage. Very great care is subsequently required in the alimentation, and in the use of remedies to remove the anemia. Only milk should be permitted for some days; but this may be supplemented most advantageously by the rectal injection of defibrinated blood.

HEMATURIA.

TYSON recommends that malarial hematuria be treated like ordinary ague, with **quinine** in antiperiodic doses; sixteen to twenty grains anticipating the paroxysm. For malignant cases, quinine must be given in very large doses, with mercurials. Stimulants are needed with morphine and carbolic acid for the vomiting.

FENWICK recommends for ordinary hematuria that the patient be confined to his bed. Sound **port wine** is one of the best astringents. Ergotin may be injected subcutaneously. Internally, he makes use of the following:

R	Ext. ergotæ fl.,.....	℥ xiv
	Acid. gallici,.....	gr. x
	Aq. cassiæ,.....	f 3 j

M. S.—For one dose.

R	Aluminis,.....	3 jss
	Syrupi,.....	f 3 vj
	Inf. rosæ acidi, ad.....	f 3 viij

M. S.—One or two tablespoonfuls as required.

HORION prescribes—

R	Ergotæ pulv.,.....	gr. xv
	Acidi tannici,.....	gr. iij
	Digitalinæ,.....	gr. ½

M. f't. mas. et in pil. no. x div.

S.—Five pills are to be taken each day.

He also uses prolonged cold injections into the bladder, and cold compresses to the perineum and pubis.

BARTHOLOW thinks favorably of **digitalis**, combined with ergot and krameria.

SIR H. THOMPSON considers the infusion of **matico**, in doses of a wineglassful every two hours as equal to gallic acid or lead.

In one case, which had resisted nearly all the remedies above mentioned, prompt and permanent relief followed the administration of **oil of erigeron**, in doses of five drops every six hours. For this suggestion we were indebted to AGNEW.

COLLSON says that when the object is to check the hemorrhage of calculus, rest in the horizontal position is the most effective treatment. Cold is indicated when the hemorrhage is from the bladder. Ice bags may be applied over the pubis and ice water injected into the rectum. **Opium** should be given to restrain the painful vesical tenesmus.

The catheter should not be introduced unless there is retention of urine. The coagulated blood checks further flow, and is itself dissolved by the urine. If the bladder cannot be emptied through a full-sized catheter, an exhausting syringe should be used. The utmost gentleness must be practised, to avoid exciting fresh hemorrhage.

The most serviceable internal remedies are **alum**, gallic acid, acetate of lead, ergot, tincture of iron, turpentine, sulphuric acid and matico. They are more beneficial in renal than in vesical hemorrhage.

SIR H. THOMPSON uses locally in vesical hemorrhage one grain of **nitrate of silver**, or a drachm of tincture of iron, in four ounces of water. These remedies are suitable for hemorrhage due to the presence of a tumor in the bladder. The internal use of iron and quinine is indicated when there is a general hemorrhagic tendency, and in most cases opium may be added with advantage.

W. ROBERTS says that when hematuria is due to acute Bright's disease, to overdoses of turpentine or cantharides, to external injury or muscular efforts, it should not be interfered with unless excessive. If the latter be the case, he recommends cups to the loins, diaphoretics and hydragogues.

Passive hematuria in the course of zymotic disease calls for **sulphuric acid**; or if of vesical origin, for copaiba and turpentine. When this bleeding takes the place of the menstrual flow, it should not be stopped till the latter is re-established.

In the treatment of hematuria, *per se*, the first indications are perfect rest and the application of cold. One of the most valuable hemostatics is **gallic acid**.

JOHNSON says that the **tincture of iron** arrests hemorrhage

by a direct astringent action on the vessels or by correcting the alkalinity of the urine.

PROUT says that the injection of cold water into the bladder, with from twenty to forty grains of alum in a pint, seldom fails to check the bleeding, even if due to cancer.

To remove blood from the bladder, an acid solution of pepsin should be injected to dissolve the clots. C. F. T.

HEMOPHILIA.—(The Hemorrhagic Diathesis.)

LEGG says that styptics are of little use. The spontaneous form should not be interfered with; but the traumatic may often be stayed at the outset by the judicious use of **compression**. Iron seems the best internal remedy. In the last resort **transfusion** may be resorted to. In the interval of hemorrhages, meat diet, cod liver oil and iron, and residence in a warm climate are the most appropriate remedies. All wounds should be avoided. Marriage should be forbidden, especially to the females of bleeder families.

IMMERMANN pronounces **acetate of lead** and **ergot** the most reliable of the internal hemostatics, when given in large doses frequently repeated. WACHSMUTH praised the action of **sulphate of soda**, given daily, in doses of three drachms to an ounce. He used it at once in traumatic cases, and on the second day in others. Other laxatives have the same effect. Absolute rest and quiet should be maintained. Stimulants may be imperatively demanded by the depression; but the temptation to resort to their employment must be resisted; as it has been frequently found that syncope stopped the bleeding when all other means had failed.

The aim should be to restrict the expenditure of vital force as far as possible. Food should be given in small amounts at first. Thirst may be allayed by frequent but small draughts of cold water or milk, to which a few drops of brandy or rum may be added when deemed advisable. **Iron** should be reserved for cases where the subsequent anemia persists an unusual time after the hemorrhage has ceased.

Hæmatomata must be protected from injury. They should only be opened when gangrene has begun. Caustics are then preferable to the knife. In the rheumatic affections mild rubefacients and anodynes are indicated, with poultices or alcoholic lotions of iodide of potassium. Bandages and splints are also of use. Mercury must be avoided.

HARTSHORNE speaks of the occasional value of **ice** and of **hot water**, as local styptics. Verneuil advises quinine internally, fifteen to thirty grains daily, particularly in dental hemorrhages.

In one case we found that the local use of **tannic acid** checked the hemorrhage, after the metallic astringents had failed. This case was that of a boy belonging to a bleeder family; and in all subsequent attacks in which this boy was under our care, we found the same agent as efficient as at first.

Whenever mechanical compression can be brought to bear upon the bleeding vessels it should be applied as quickly as possible.

A writer in *The Phila. Med. Times* recently recommended a solution of **antipyrin** as an efficient hemostatic. Muriate of **cocaine** is worth trying, as it succeeded in stopping the hemorrhage in a case of purpura hemorrhagica, which occurred in Dr. Waugh's practice.

HEMOPTYSIS.

BARTHOLOW says that the most effective remedy is the hypodermic injection of **ergotin**. He looks on **ippecac.** as next to ergotin, one of the most efficient hemostatics. Inhalations of a spray of **Monsel's solution** will often arrest the hemorrhage at once.

SEYMOUR TAYLOR cautions us against undue haste in using astringents. **Opium** acts like a charm. If the hemorrhage be profuse, twenty minims of tincture of **digitalis** should be added. When opium is contra-indicated, turpentine and ergot are useful.

CARRE recommends baths, with arsenic and quinine for the nervous cases.

GUBLER also advocates **quinine**.

DA COSTA gives a scruple of **gallic acid** every ten minutes till hemorrhage ceases. After this he orders:—

R Cupri sulph.,..... gr. $\frac{1}{2}$
 Ferri sulph.,..... gr. ij
 Ext. hyoscyam.,..... gr. j

M. S.—For one pill, to be taken thrice daily.

In persistent slight pulmonary hemorrhage copper controls the pulmonary circulation and arrests the bleeding. Cod liver oil should not be given until the hemoptysis has ceased. He also recommends the following formulæ for use with the atomizer:—

R Ferri chlor.,..... gr. ij-x
 Aquæ dest.,..... f $\frac{3}{4}$ j
 M.
 R Acidi tannici.,..... gr. x-xx
 Aquæ dest.,..... f $\frac{3}{4}$ j
 M.
 R Pulv. alumin.,..... $\frac{3}{4}$ ss
 Aquæ dest.,..... f $\frac{3}{4}$ j
 M.

DOBELL pronounces the following the most efficacious and rational combination of remedies for profuse tubercular pulmonary hemorrhage:

R Ext. ergotæ fl.,..... f $\frac{3}{4}$ ij
 Tinct. digitalis,..... f $\frac{3}{4}$ ij
 Acid. gallici,..... $\frac{3}{4}$ j
 Magnes. sulph.,..... $\frac{3}{4}$ v
 Acid. sulph. dil.,..... f $\frac{3}{4}$ j
 Inf. rosæ comp.,..... f $\frac{3}{4}$ vj

M. S.—f $\frac{3}{4}$ j, every three hours until the hemorrhage is arrested.

The ergot contracts the vessels, the digitalis steadies the heart, the gallic acid clots the blood, the magnesia relieves congestion, and the sulphuric acid helps the rest.

NIEMEYER prescribed—

R Copaibæ.,.....
 Syrupi,.....
 Aq. menthæ pip.,.....
 Alcohol,..... āā f $\frac{3}{4}$ j
 Sp. etheris nitros.,..... f $\frac{3}{4}$ ss

M. S.—f $\frac{3}{4}$ ij, every two to four hours.

The knowledge that patients but rarely die of hemoptysis will assist us in reassuring our frightened patient. The head and chest should be raised somewhat, the clothing about the neck opened, and all speech or other effort strictly forbidden. Serious hemorrhages call for ice bags to be applied over the sternum. Solutions of subsulphate of iron should be used with an atomizer. Though but little of the medicinal agent can possibly reach the bronchial mucous membrane, the efficiency of the application is unquestionable.

If the heart be excited, and thumping tumultuously against the side of the chest, a full dose of **aconite** will give relief. **Digitalis**, in doses of thirty drops of the tincture, every four hours, is the most efficient internal remedy. The after effects of such hemorrhages should be carefully watched. Fever calls for **quinine**.

Hemorrhages occurring in the course of pulmonary consumption are often beneficial, their occurrence being followed by amelioration of the other symptoms.

In those who are prone to hemoptysis, we have found the greatest benefit to accrue from the prolonged use of the lactophosphate of lime, with carefully regulated hygienic management, the avoidance of superfluous liquids, and of violent exertions. A trip upon a whaler in the South Atlantic completed the cure in one case. The use of the fruit acids has also proved beneficial. We have learned by bitter experience to dread the iron preparations, and the sea air, in such cases.

HICCOUGH.

POORE says the treatment of hiccough will depend upon the cause. An emetic to empty the stomach, or a stimulant to increase its natural peristaltic action, will often give relief. If we can succeed in producing a forcible action of the diaphragm, we may often succeed in curing it, as it were, of the trick of spasmodic action. Attempts to count a hundred without drawing breath, or to hold the breath for a minute, are familiar remedies for hiccough, and, by producing a feeling of suffocation, and necessitating a violent descent of the diaphragm, they are often

successful. Warm applications or counter-irritation applied to the diaphragmatic region or over the cervical spine, may occasionally give relief. Pressure upon the trunk of the phrenic nerve by means of the finger applied over the scalenus anticus muscle, is said also to have given relief occasionally in obstinate cases. Amongst the drugs which have been recommended for the relief of hiccough are **chloroform** (administered internally), either alone or combined with opium, camphor in the form of a spirit solution, in doses of twenty drops and upwards, valerianate of zinc, belladonna, bromide of potassium, musk, ant-acids, and in very severe cases, hypodermics of **morphine**.

A remedy which has never failed us yet, is the *genuine Hoffman's anodyne*, in teaspoonful doses *undiluted*. In one case which had persisted for forty-eight hours, resisting all efforts to relieve it, a single dose of the anodyne sufficed to cure.

HYDROCEPHALUS.

BASTIAN condemns blistering the scalp, mercurial inunctions and strapping. He advises attention to the general health, the use of cathartics and diuretics, and the iodide and bromide of potassium. He also thinks it worth while to reduce the amount of fluids taken to a minimum. Puncture has not proved, as yet, very successful, but in such a grave disease, may be performed in the hope of giving relief.

HYDROPHOBIA.

GOWERS says when a person has been bitten by a suspicious or doubtful animal, the circulation in the part should, if possible, be at once arrested by a tight ligature above the bitten place; the wound should be washed; and then it should be allowed to bleed freely. It may probably be sucked with impunity if the mouth is rinsed with water, or better still with vinegar and water, after each act, and if there are no abrasions in the mucous membrane. The act has been supposed to be dangerous; but all experience is opposed to this. Poisons have to remain for some minutes in contact with a mucous membrane before they are absorbed, and during the act

of sucking there is a flow from the mucous membrane into the mouth, which must be opposed to absorption. As soon as possible the wound should be cauterised. Of chemical caustics, nitrate of silver, freely applied at once, is probably effectual. If any time have elapsed, nitric acid or liquid carbolic acid is preferable. The actual cautery, applied deeply and freely, is an efficient and ready means. If practicable, free excision of the bite is wise; and should not be neglected, even though the cautery has before been used, if there is any doubt as to the thoroughness of the application.

The methods adopted for the treatment of the developed disease have been numerous. All so-called 'specifics' have been proved to be useless. An attempt has been made to eliminate the poison by administering large doses of mercury, and by diaphoresis. The two have been combined in the mercurial vapor bath. Two or three cases are on record in which this method has been successful; many in which it has been powerless. Of late it has been but little tried.

Attention has been lately directed to **curara** as a remedy for hydrophobia. In a case reported by OFFENBURG it was apparently successful; and since then another case has recovered under its use. In many cases it has failed. It should be used in injections of from $\frac{1}{16}$ to $\frac{1}{8}$ of a grain, repeated every quarter or half an hour, until the severity of the paroxysms is lessened. This point may not, however, be reached until general muscular paralysis is imminent or produced, and then artificial respiration may be necessary until the effect has passed away. As often as this is the case, and the spasms recur, another injection must be given. In hydrophobia there is remarkable tolerance of the drug, poisonous doses (one grain repeated) of active curara having in one case been without any effect. This is perhaps a hopeful fact, as it indicates that curara has an action to which the changes in the central nervous system are opposed.

Sedatives have been the remedies commonly employed, and of these the best are chloral and morphine. One case (probably genuine), in which morphine and calabar bean were used, recovered; and one in which chloral was employed lived for ten days. The effect of the two on the respiratory centre in animals suggests their joint use. The morphine should be given by hypodermic,

the chloral by rectal injection. Chloroform is useful in moderating the paroxysms, but appears somewhat inferior to chloral. Other sedatives—Indian hemp, &c.,—have appeared of inferior value.

Cold affusions to the cervical spine and head were used in India in two cases which recovered, the throat and spine being blistered with nitrate of silver, and chloroform administered. Ice to the spine has been tried without effect. Tracheotomy was recommended by MARSHALL HALL in one case. Death from *laryngeal* spasm, is, however, too rare to justify the measure.

In all cases tranquillity is of the greatest importance. Every excitant of spasm should be avoided; the patient being kept in a dim, still room, and friends excluded as much as possible. Next in importance is nourishment, which should be given by the rectum, if spasm be excited by the attempt to swallow. Restraint, which may be necessary, should be as little as possible, but it should be effectual.

The saliva of persons suffering from hydrophobia has been proved to be capable of communicating the disease to animals. Hence the attendants should be cautioned to have no uncovered abrasion on the hands, and to wash from the eyes or face any saliva which may have been spit on them; and if they are bitten by the patient, the wound should be treated as if it had been inflicted by a rabid animal. These precautions remove all danger; and any anxiety the subjects may feel may be relieved by the assurance, that of the thousands of persons who have attended on patients with hydrophobia, no authentic instance has ever been recorded in which the disease was contracted either by attendance during life, or inspection after death.

Recently a case is reported as having recovered under the use of **vapor baths**. It seems unlikely that this remedy, so popular in Russia, where cases of rabies are frequent, should not have been fully tested long since. However, in so hopeless an affection, one may be excused for trying any experiment, and we would suggest the free use of jaborandi, and the vapor bath, with the assurance that failure will leave no regret for not having adopted any other method of treatment. To assuage the paroxysms, nothing has yet equalled **chloroform** by inhalation.

HYPOCHONDRIA.

BUZZARD says that moral treatment alone is of any influence in most cases. Anemia, syphilis, gout, fecal accumulation, intestinal catarrh, and hemorrhoids, when co-existing should be treated. Alcohol should be avoided. Travel, with judicious companionship, and regular, definite and useful employment, are the most potent means of treatment. Ridicule is rarely of service, and too close attention to the patient's symptoms or sensations is to be deprecated also.

HUGHES found visceral disorders, and diabetes frequently co-existing with hypochondria. **Codeine** and electricity are his favorite remedies.

KELLOGG calls attention to the fact that *over work* is frequently the primary cause, and that *rest* is often the needed remedy.

The connection between hypochondria and spermatorrhea is very close; and a common cause for both will frequently be found in masturbation.

As in other nervous affections, the first rule is to treat every departure from health which can be found, however slight and inconsequential it may appear.

The habit of masturbation must be broken up; the passage of a bougie will very often indicate the presence of tender spots along the urethra, which must be cured by the use of steel sounds; the digestive canal must be kept in good order. While the patient must be taught not to let his thoughts dwell upon his health exclusively, it will not do to show indifference to his condition, as he is quick to feel and resent neglect. It must not be forgotten that hypochondria is a real disease, which lands its unhappy victims in the insane asylum, and in a suicide's grave, too frequently for us to hold it in contempt.

An out-door life, field sports, and, as the strength admits of it, the life of a frontiersman, are to be commended. When all aberrations from a healthy standard have been corrected, when the sexual functions have been properly regulated, our duty is to lead our patient to forget his ailments by interesting him in those

of others. This, we have found the most successful method of psychic management. When one's own troubles begin to appear trifling, beside the profound griefs that beset humanity, there is hope of a cure.

ERB thinks that electricity has not received the attention it deserves, in the treatment of this neurosis. Besides general faradisation, he recommends that the prominent symptoms of the disease, such as constipation, impotence, and insomnia, be treated with electricity. Be careful in the selection of a current, as these patients are highly sensitive.

HYSTERIA.

BARTHOLOW says, in this malady, above all others, are moral and hygienic measures of most importance. When the hysterical constitution is inherited, prophylactic methods should be pursued from an early period. Self control should be instilled into the mind from the first dawn of intelligence, and the muscular and digestive systems should be cultivated, while the nervous system is trained to subordination. Early hours, substantial food, plain clothing adapted to the needs of the body, should be insisted on, while society, the follies of dress and fashion, and dainties should be prohibited. The utmost care is necessary in the selection of books for young ladies. The modern novel has done much mischief by cultivating morbid fancies and false notions of the relation of the sexes, etc. Sexual abuses, although less influential than they are usually supposed to be, have an injurious effect on the nervous system. If the hysterical condition develop in spite of the precautions advised, remedial measures become necessary. The condition of anemia must be removed by chalybeates, a generous diet, and suitable exercise. Those tonics are most suitable which have a special direction to the nervous system, as arseniate of iron, strychnine, and the phosphates. As the opposite condition or plethora may exist, although less common than anemia, iron, arsenic, and strychnine should be avoided, and such remedies as the **bromides**, gelsemium, and cimicifuga prescribed. For simple hysterical seizures without convulsions, the elixir of

valerianate of ammonia, a camphor julep, a little fluid extract of valerian, or a few drops of Hoffman's anodyne, repeated every few minutes, will terminate the seizure. In the convulsive form, as the trismus is difficult to overcome, inhalations of **amyl, nitrite** or of ether may be practiced; rectal injections of turpentine, ammoniated valerian, tincture of asafœtida, or, in violent cases, a minute quantity ($\frac{1}{16}$ gr.) of **morphine**, hypodermically may be administered. For the various complications of hysteria the resources of the therapist are severely tried. Migraine or clonus may be cured by attention to the general health, and by such remedies as guarana, coca, nux vomica, arsenic, aconitine, galvanism, etc. Hysterical aphonia and dysphagia may sometimes be cured instantly by faradic applications. Anesthesia is most successfully treated by the **electric brush**, a strong current being applied after drying the part well. The various forms of hysterical paralysis require faradic applications. A single application may overcome paralysis of long standing, especially if the impression made by electricity is seconded by tact and moral force on the part of the physician. MITCHELL has devised a plan of treatment for bed-fast hysterical subjects which seems very successful. It consists in the combined use of **massage**, faradizations, and forced feeding. Massage consists in friction, kneading and tapping of all the muscles except those of the face, in passive motions of all the joints, and in muscular motions produced by faradic applications. The frictions are made with lard or cacao-butter. The diet consists at first of milk only, but additions are made to it from time to time, until ultimately the feeding is very liberal. No voluntary exercise is allowed, but all movements are made for the patient; which procures exercise without voluntary effort. Remarkable gain in weight takes place, and when the improvement reaches a certain point, systematic voluntary exercise is begun. An important point in Mitchell's treatment is the separation of the patient from all her former associations and the superabundant sympathy of home. She is placed in charge of a nurse, on a diet of milk; hunger takes the place of her indifference to food. She is placed in bed, and not permitted to move; the desire for action grows out of the utterly monotonous idleness. She is acted on by the electrical force, and by the moral force of her

new environments, and stimulated to wise thinking by the ingenious suggestions of an acute-minded physician. The result is that she is cured.

JOLLY says that the prophylaxis should begin in childhood. Careful training of the mind and judicious hygienic management should be kept up through infancy, youth, and especially during puberty. Marriage, if happiness results, is often beneficial; but more frequently it proves injurious, especially to weak, anemic girls. In treating the disease itself, the cause should be sought, and removed, when possible. The tonic regimen plays an important part here. Depleting measures are rarely requisite. Amenorrhea may require **rue, savine**, &c., and leeches to the cervix. The cause is frequently to be found in affections of the genitals, which require their ordinary treatment. Care must be taken that slight affections are not over-treated.

A close inquiry should be made into the patient's mental and emotional state; and often much good may be done by judicious advice to patients. **Valerian** is thought to be specially useful for convulsive symptoms.

Musk, castor, asafœtida and galbanum are valued as anti-hysterical remedies. Opium is even more highly prized.

JOLLY praises especially the systematic external application of **cold water**.

The moral management is the most important part of the treatment. No physician has luck with *all* his hysterical cases. The object is to acquire the complete confidence of the patient. Her attention should be diverted from the consideration of herself, to the griefs of others.

Ridicule is useless. "Faith," in the physician or otherwise, will sometimes work miracles with this class of cases. Strange, unusual or unfamiliar remedies often succeed. **Electricity**, especially when applied with a spice of mystery, is particularly efficacious. Threats of cold douching, of the actual cautery, etc., sometimes do good, but are unsafe.

CHARCOT'S method for convulsions, of strongly compressing a sensitive ovary, is only exceptionally effectual.

For hystero-epilepsy the bromides are as useful as in true epilepsy. In spasm of the glottis, ether or chloroform may be inhaled. Electricity is the remedy for hysterical paralysis.

Anesthesias require the faradic brush.

These remedies are valuable in the treatment of the symptoms, but it is improbable that they can cure hysteria. The danger of forming the opium habit is very great.

The dietetic and hygienic treatment is more effectual. As this involves the treatment of the morbid condition present, generally anemia, it will save repetition if we refer our readers to the article on that theme.

We may add that the first requisite in the treatment of hysteria, is plenty of *wit* on the part of the physician, with a profound knowledge of the devious ways of the female heart.

WEIR MITCHELL is said to make his "rest cure" effective by treating his patients in such a manner that they soon become possessed with one over-mastering passion—the longing to get away—and this truest kindness in the guise of harshness is very successful.

The reputation of asafœtida is hardly deserved. It is but a feeble hysteria which will give way sooner than take a little of this drug. One of the most enthusiastic endorsers of asafœtida claimed that it was only effectual when applied to the vaginal mucous membrane, and rubbed in briskly with the fingers. This savors of the advice to frighten off mad dogs, by stooping down until the head looked back from between the knees, and thus advancing towards the astonished animal.

Valerian is often a great comfort to hysterical persons. The best preparation is the ordinary tincture.

IMPOTENCE.

CURLING says that there are certain cases in which **cantharides** are useful. In atony of the organs, with feeble, unstable and insufficient erections, ten to fifteen minims of the tincture may be given every three or four hours for a short time before the occasion arises for the exercise of the sexual functions. Dilute

phosphoric acid, phosphate of iron, **strychnine** and ergot are remedies which may be given in impotency. The condition to which these aphrodisiac remedies are chiefly applicable is when the penis is but feebly excited, and does not maintain the physical state necessary for penetration, during the period of congress. Such torpidity may exist in persons in whom desires are at times strongly felt, and the functions of the testicles properly performed. In these cases, also in timid persons, and in others whose organs are inexcitable from long disuse, stimulating treatment may conduce to success, and ensure confidence for the future. But these remedies exert no influence in a constitutional apathy of the sexual functions. They have rarely, also, more than a temporary effect; and in persons advanced in life, when the parts, having fulfilled their office, are experiencing their natural decline, they operate injuriously, and tend to produce congestion of the prostate and local disease. In those cases also in which the sexual organs are weakened or prematurely exhausted by excess, they are likewise hurtful, as well as fruitless. After such abuses a period of repose is required, and by the avoidance of all sources of excitement, and by diet and remedies adapted to invigorate the body, such as the preparations of steel, a gradual restoration of the procreative functions may be hoped for.

Electro-magnetism is a remedy of some efficacy in certain forms of impotency. Interrupted currents (Faradic) may be passed in two directions, from the perineum to the glans penis in cases of defective erectile power, and from the groin along the spermatic cord to the testicles, in cases where these organs are soft and flaccid, and where secretion is languid. The results are often disappointing. In cases in which the desires are strong, but the erections feeble, the sensibility of the glans penis is so lowered that the friction of coition is incapable of maintaining prolonged distention of the organ, and erection subsides shortly after penetration and before completion of the act. A few applications of the electric current, by rendering the glans penis more sensitive, may cause a more persistent distention of the organ under the natural excitement. Electro-magnetism succeeds more frequently in impotency of this character, than where, in addition to defective erection, the desires are feeble, and the testicles soft and

inelastic; and yet the repetition of the remedy has succeeded in some instances of this less hopeful kind in rousing a dormant power, causing secretion to be resumed and erections to return. The special treatment required in cases due to injury of the central nervous system, after recovery from head-symptoms, is the use of electro-magnetism, applied from the occiput along the spine.

In atonic impotence the younger GROSS advises the removal of all existing causes of urethral hyperesthesia. The redundant prepuce must be circumcised, the contracted meatus enlarged, herpes or balanitis cured. Certain diseases of the bladder and rectum require a like attention.

The patient must be warned against all sources of sexual excitement, such as masturbation, attempts at intercourse, toying with women, and impure books, pictures, thoughts or conversation. The sexual appetite may also be kept in abeyance by mental employment and gymnastic exercises.

Locally the favorite remedy is the steel sound. This should be passed, of full size, at first every three days, and afterwards once daily. It should be retained but a minute at first, but the time may be gradually lengthened to a half hour. The treatment suitable to strictures should be instituted if one be present. In psychical impotence from undue sexual excitement, a placebo will give relief. GROSS mentions de Caux's case, in which the wife slightly intoxicated the husband, which removed the difficulty. The same precautions are necessary as in hypochondria, to gain the patient's confidence.

For syphilitic impotence, KEYES recommends the ordinary anti-syphilitic regimen; together with tonics, sea-air, frictions to the skin, and shower-baths.

ERB prefers the galvanic current. He places the anode (large electrode), upon the lumbar cord, the cathode (medium) stable and labile along the seminal canal from the inguinal ring downwards for two minutes on each side. The current should be strong enough to cause a distinct burning sensation in the skin. Then follow vigorous labile applications of the cathode for a minute, to the upper and lower surfaces of the penis, and finally the cathode is applied labile and stable upon the perineum as far forward as the root of the penis one or two minutes.

A few interruptions or changes of polarity increase the stimulation. If the glans be anesthetic, the cathode may be applied to it longer. If the testicles be atrophied, flaccid and cool, the current may be passed through them. Anesthesia is also benefited by the use of the faradic brush, to the glans and scrotum.

Treatment must be continued daily for six or eight weeks.

For deficient erections BARTHOLOW recommended hypodermic injections of **ergotin** in the dorsum of the penis.

Phosphorus has some power in restoring the waning sexual powers, **gold** has still more. Several patients to whom I had been giving **coca** for other objects, have reported to me an increase in the sexual power subsequent to the use of this singular drug.

The difficulty is not so much in restoring the power of sexual congress, as that the patient will take advantage of his renewed vigor to commit such excesses as will inevitably recall his ailment. One gentleman who had been impotent for more than a year was cured by the use of the chloride of **gold**, given in doses sufficient to cause a sense of fulness in the ears. He informed me subsequently that he had performed the sexual act seven times in a single night. From this I augured a speedy and permanent return of his malady; and my prediction was verified.

Many men become impotent after passing their fortieth year. I have noticed that this is more often the case with stout and plethoric men, who are brain-workers, fond of strong food, and who lead a sedentary life. While the various aphrodisiacs will succeed in stimulating the flagging energies for a little while, it is far better that the patient should take it as a warning that the play-time of youth is past, that its pleasures and follies are for younger men, and that to him there only remains to devote himself to the working part of his existence, and the more elevated enjoyment of intellectual pursuits.

[W. F. W.]

INFLUENZA.

BARTHOLOW says, repose in-doors, a generous diet, and the moderate use of stimulants, are the most important measures. At the outset a full dose of **quinine** gr. xv, and **morphine** gr. ss,

exercises a favorable influence; and throughout the disease these are the most useful remedies to quiet the harassing cough and to maintain the strength. If there be much secretion, **belladonna** or its active principle, atropine, may be combined with morphine and quinine. If the bronchial mucous membrane be severely attacked, small doses of tartar emetic, or ipecac. and morphine are useful.

R Ext. ipecac. fl.,.....f 3 ij
 Tinct. opii deodor.,.....f 3 iv
 Tinct. aconiti rad.,.....f 3 j

M. S.—Six to ten drops every two hours.

If the finer tubes be involved, the iodide, muriate, and carbonate of **ammonia**, should be freely administered. If the stomach be very irritable, as is the case in many epidemics, the most useful remedies are oxalate of cerium, hydrocyanic acid, minute doses of morphine subcutaneously, carbolic acid, with or without bismuth, etc. For the violent head symptoms which sometimes ensue, the most appropriate remedies are bromide of potassium, gelsemium, duboisia, morphine subcutaneously, etc. If there be much local distress, the vapor of hot water should be sedulously inhaled. When the first irritation is felt in the nares, a solution of muriate of quinine should be applied and allowed to pass through into the fauces, after the manner of HELMHOLTZ. It is probable that **pilocarpine** will be found extremely useful in cases of influenza, administered at the outset with the view to abort the malady. As a self-limited disease arising from an unknown cause, it may be safely left to the resources of nature, unless the rise of complications demand interference.

LOOMIS warns against exposure to cold during the prevalence of influenza. Quinine sometimes aborts it, if given in very large doses at the very onset. In the early stages LOOMIS gives one grain of **ipecacuanha** in half an ounce of spirits of Mindererus, every three hours. Milk with an alkaline water is the only food for the first two days. If patients be restless, small doses of Dover's powder are advised. Steam inhalations relieve the bronchial and laryngeal symptoms. The prostration occurring in the very young or old, or in the feeble, is to be early combated with stimulants. All depressants are contra-indicated. Colchicum,

alkalies and opiates are serviceable where rheumatic pains predominate. In convalescence, iron and quinine should be given.

DAVIS gives eight grains each, of nitrate of potassa and Dover's powder, with one and one-half grains of calomel, every four hours. Also the following:—

R	Potass. bromid.,.....	3 v
	Syr. scill. comp.,.....	f 3 jss
	Syr. ipecac.,.....	f 3 ss
	Tinct. opii camph.,.....	f 3 ij

M. S.—A teaspoonful in a little water every four hours.

If the attack be severe, the pulse firm, and the temperature 103° , he adds a drachm of tincture of **veratrum viride** to the above formula. When the febrile symptoms abate, the powders are discontinued, and a laxative given. After this has operated, the expectorant mixture is continued, and five grains of **quinine** given each night and morning. In some elderly persons he substitutes senega and aselepias for the ipecac. and squills. Many mild cases have been aborted by a single dose of Dover's powder and quinine, each ten grains, with five grains of calomel; followed by a laxative, and three grains of quinine several times daily, for some days.

The same results might be obtained from **pilocarpine**, followed by quinine.

In spite of the variety of drugs which have been administered in influenza, there has not as yet been found one which really influences the course of the disease. We look with disfavor on attempts to break up an attack as we do a common cold. In ordinary cases, **cocaine** may be used as a palliative, a two per cent. solution being applied to the nose, throat, conjunctiva and laryngo-tracheal mucous membrane by atomization.

In the young and the aged, the utmost care must be used to support the strength. So, also, in those who are debilitated by previous disease. In all these cases, wine, ammonia, and hot soups, with coffee and milk punches, should be used with an unsparing yet cautious hand. And yet, how singularly inefficacious are all these measures in the worst forms of influenza!

INSOMNIA.

DAVIS calls attention to the importance of removing the cause. The excessive use of tea, coffee or tobacco, must be discontinued. Intense or protracted mental exercise or excess of care *must* be removed before success can be hoped from treatment. In the cases where the patient "must finish the work he has on hand before he can rest," there is a great temptation to obtain sleep by resorting to alcohol or to hypnotics; which, once commenced, are rarely laid aside.

Nineteen-twentieths of all cases of insomnia will yield to the **bromides** and perhaps to **digitalis**, if the cause be removed. Ten to twenty grains of the bromide, with ten to twenty minims of the tincture of digitalis, should be given half an hour before bedtime. The dose may be repeated in two hours if necessary.

He has abandoned chloral, on account of the unpleasant sensations following its use. Sometimes **valerian** may be substituted for the digitalis.

BASTIAN also premises his remarks on treatment by speaking of the necessity of correcting the physiological conditions to which the insomnia is due. Mental repose, bodily comfort, warmth, a certain degree of fatigue and quietude, are essentials.

An evening walk is often effective.

A cup of hot beef-tea or gruel, just before retiring may have a salutary influence. Monotonous sounds, frictions, or thoughts, have a tendency to induce sleep. Besides the ordinary hypnotics, he speaks of the sedative influence of the **wet packs**.

MANN recommends prolonged warm baths, with cold to the head, for insomnia with excitement.

EICKHOLT places the **bromides** first in irritative and neurasthenic cases. Eighty grains should be given an hour before retiring. Opium is contra-indicated in uremic cases. Chloral should be avoided in old age, and when the heart is weak. Cannabis is useful in melancholia, but is to be avoided in cerebral excitement.

HAMMOND calls attention to the value of music, monotonous

occupations and repetitions of words. A hearty supper predisposes to sleep. **Coffee** will sometimes cause sleep, especially in women whose circulation is languid.

C. HANDFIELD JONES says that a mustard poultice to the epigastrium will cause sleep by stimulating a languid solar plexus. For weakly and hyperæsthetic persons, exposure to cold open air is an excellent soporific.

WILLEMIN recommends **codeine** for sleeplessness from pain.

Quinine relieves cerebral congestion.

* * * * *

There are two conditions which give rise to insomnia—cerebral anemia and cerebral hyperemia. The treatment must be directed by the knowledge of the state present.

The physician should resolutely set his face against the use of alcohol, opium, chloral, anesthetics, or any other drugs as sleep-producers, when a patient is destroying himself by overwork. When exhausted nature gives warning that she has reached the limit of her endurance, the physician has no right to step in and aid in the suicidal course of his patient, by enabling him to continue his occupation. And it will nearly always be found that if the trusted medical adviser gives his opinion frankly, and adheres firmly to his decision, the patient will acquiesce.

The most efficient drug in cerebral hyperemia is **hydrobromic acid**. A drachm of the dilute acid may be given at bed time, in a wineglass of sweetened water. This dose may be repeated every two hours, with safety.

When, after a hard mental task, the forehead is hot and the temples throbbing, it is good to attract the blood from the brain, and the mind from its engrossing subjects of thought, by swinging the Indian clubs, or taking a smart run, before going to bed. If the forehead be cool, or a sense of debility be manifest, a bowl of beef-tea, or some other hot, non-stimulating drink, will secure sleep more surely and more invigorating in its effects, than any drug in the *Materia Medica*.

When inability to sleep results from over-fatigue, after muscular exertion and wakefulness prolonged to an unusual period, a cup of weak coffee, or a warm bath, will produce sleep. The

coffee must not be too strong, or the cure will be overdone, and coffee-insomnia result.

Of the new hypnotics, piscidia erythrina has proved unsatisfactory. It is a useful palliative in coughs, but not a hypnotic. **Paraldehyde** proved most valuable in the insomnia following a drunken debauch. The dose is from one to two drachms. It may be administered in syrup of orange, with tragacanth and a few drops of chloroform. Urethan and tannate of cannabine have not as yet earned the right to replace the older remedies which are better known. **Lupulin** is of great value in delirium tremens and in some forms of mania.

An efficient and safe hypnotic may be found in the **faradic** current, passed simply through the hands, or from one hand to the feet.

INTERMITTENT FEVER.

BARTHOLOW writes, if there be no time to prevent the paroxysm, we possess means to abort it at the chill stage. The expedients resorted to for this purpose are very numerous, and include **nitrite of amyl** inhalations, chloroform by inhalation and by the stomach, and the hypodermic injection of morphia and of pilocarpine. From a half-drachm to a drachm (fluid) of chloroform, given in some sweetened water by the stomach, or administered by inhalation, will usually arrest the chill, and greatly lessen the severity and duration of the succeeding stage. Amyl nitrite is also quite efficient in bringing on reaction and abbreviating the chill stage, but it exercises little or no influence on the other stages. Recent observations seem to prove that **pilocarpine**, of all the remedies hitherto proposed for this purpose, exercises the most remarkable influence. If administered as the chill is coming on, it stops it, and substitutes a sweating stage, thus preventing the full evolution of the paroxysm. The most remarkable point is that the disease seems arrested, and relapses are prevented in a considerable proportion of the cases. If these observations are confirmed, we shall have in pilocarpine the most useful remedy in the treatment of intermittents. From one-twelfth to one-sixth

grain of the nitrate or muriate of pilocarpine, given hypodermically, is the appropriate dose for an adult, and this should be given as the chill is about to occur. A corresponding dose (one-sixth to one-fourth grain) can be given by the stomach half an hour before the chill-time. If the chill have anything of the pernicious character about it, the most efficient remedy is the hypodermic injection of morphine and atropine. In any of the modes in which the pernicious attacks come on, the remedies are two—morphine and quinine—and the mode of administration subcutaneous. From one-twelfth to one-fourth of a grain of morphine can be given to an adult. Maximum doses of quinine are required.

Much difficulty has hitherto been experienced in preparing a suitable solution of quinine. As the muriate of quinine and the bromide are soluble to a much larger extent than the sulphate, they may be used for solution in water only; but as the quantity required is so great, a solution of the sulphate, dissolved by the aid of sulphuric acid, is generally preferred.

R	Quininæ disulph.,.....	gr. l
	Acid. sulphuric. dil.,.....	℥ c
	Aquæ,	f ̄ j
	Acid. carbol. liq.,.....	℥ v

M.—Solve.

The dose of quinine injected in a pernicious case should not be less than twenty grains, and this may be repeated two or three times until reaction is established. In the absence of the method or means of hypodermic injection, quinine and morphine may be administered by the rectum, if insensibility or irritability of the stomach prevent the introduction of remedies into that viscus. If the approach of a pernicious intermittent is indicated by the presence of head-symptoms, drowsiness, headache, vertigo, etc., the administration of full doses of quinine should not be delayed.

In the treatment of ordinary intermittents, our attention is directed to the prevention of future attacks. Although no preparatory treatment is actually required, better results are obtained if the gastro-intestinal derangement is removed.

During the intervals between the administration of quinine, the remedies best adapted to the existing state of malarial cachexia are, besides iron, arsenic and eucalyptus.

For the chill, DAVIS gives thirty to forty-five minims of **chloroform**, by the stomach.

In the hot stage, he recommends sponging with cold water, cold cloths to the head, and **aconite** or **veratrum viride**, one to two minims of the strong tincture of either.

To prevent the recurrence of the chills, he gives ten to twenty grains of **quinine** on the first and second days, and eight to twelve grains on each day subsequently, for three days. He divides the daily portion into three doses, giving one in the sweating stage, another in the middle of the intermission, and the third one hour before the expected chill.

Due attention should be given to the condition of the bowels, and to the general health. To restore the tone of the blood after the paroxysms have ceased, he gives:—

R. Quininae sulph.,
 Ferri citrat.,āā 3j
 Ext. hyoscyami,3 ss
 Ext. nucis vomicae,gr. x

M. Div. in pil. vel capsul. no. xxx.

S.—One to be taken before each meal for a week; one twice a day during the second week; and one daily during the third week.

The practice of giving alcoholic bitters is pernicious. They have no good effect on the ague, and lead to habits of alcoholism.

MACLEAN gives a ten grain dose of **quinine** at the end of the sweating stage, and repeats it in four to six hours.

The celebrated African explorer LIVINGSTONE, whose experience in malarial fevers was unparalleled, was accustomed to give six or eight grains of resin of jalap and of rhubarb, with four grains each, of calomel and quinine. In five hours free catharsis ensued, or was produced by an enema. Then he gave four grains of quinine every four hours until twelve grains had been taken. He considered that any other mode of dealing with the fevers of Africa was trifling.

NAPHEYS states, on the authority of GOVE, that if quinine be long used as a prophylactic, it loses its power over malarial diseases. The best prophylactics are a generous diet, plenty of work, both mental and physical, but not to exhaustion, avoidance of night air and wet, proper clothing and a cheerful disposition.

The free use of pepper, and the taking of a small cup of coffee on rising is favorably mentioned. During the night the doors and windows should be closed, and an open fire should be lighted in the evening and early morning. The drinking water should be filtered or thoroughly boiled before being used.

English surgeons in India found that **quinoidine** ranks the highest of the cinchona alkaloids in prophylactic value. Three grains were given daily.

To this we may add that persons living in malarial districts will do well if they sleep as near the top of the house as possible, and take the morning coffee before arising. They should remain in-doors until the sun has dissipated the nocturnal mists, and should not go out after sunset.

BEMISS recommends that in congestive chills, or algid forms, one-sixth of a grain of **morphine**, with one-fortieth of atropine be injected hypodermically. Amyl has also been recommended.

ANDERSON used **iodine** successfully in intermittents. He gave ten to fifteen minims of the compound tincture before each meal, well diluted.

A host of other remedies and combinations have been used with reputed success in ague, but as none have equalled quinine and the other cinchona alkaloids, it is not deemed advisable to give them in detail; especially as their mention is apt to lead the reader from the use of cinchona into doubtful experiments.

When quinine cannot be given by the mouth, it may be administered by the rectum, or hypodermically; or it may be made into an ointment with lanolin and rubbed into the skin. If used by the hypodermic method, the dose should be one-half that by the mouth; but for rectal use the latter dose should be doubled, and for inunction it may be quadrupled.

Free catharsis at or near the time of the expected chill, aids greatly in preventing the paroxysm.

INTESTINAL DISEASES.

1. OBSTRUCTION *from internal strangulation.*

DURHAM thinks that until the nature of the case is fully made out, the measures to be adopted consist of perfect rest, relaxation of the abdomen by position, hot or cold applications, the use of opium and belladonna, or of anesthetics, as may be indicated. Enemata may be used, but purgatives add to the distress and danger. Ice may be sucked, but little must be swallowed of food or drink.

When the nature of the case is determined, an operation is indicated, and the earlier it is done the better.

Abdominal taxis under chloroform may first be tried.

If this fail, an incision should be made in the median line, above or below the umbilicus, and the obstruction sought out and relieved.

2. OBSTRUCTION *from impaction of gall stones.*

DURHAM says, palliation alone can be recommended as a rule; but enterotomy appears to be justifiable.

3. OBSTRUCTION *from intussusception.*

DURHAM says that acute intussusception in an infant demands, first, a copious enema of oil, gently and slowly injected, the body being invested and moved about, while taxis is performed at the same time.

Insufflation by air may be substituted for the enema. Should this plan fail, after a fair trial, laparotomy should be performed, before adhesions have formed or peritonitis supervened.

In chronic forms in adults, enemata, and the use of **opium** and belladonna are often of the greatest service.

4. OBSTRUCTION *from constrictions.*

DURHAM recommends soothing measures in the early stages, during the suffering, and laxatives during the period of relief.

The diet must be carefully regulated, and such medicines given as render the intestinal contents pulpy and soft.

In the latter stages, surgical measures are requisite.

5. OBSTRUCTION *from compression.*

The treatment consists in the use of enemata, manipulation, and the measures put in execution by the surgeon.

6. OBSTRUCTION *from impaction of foreign bodies.*

The remedies are enemata, opiates, and colotomy in some cases of complete obstruction.

7. OBSTRUCTION *from impacted feces.*

For this condition, the treatment consists of very copious enemata, with galvanism of the abdomen, and laxatives; later, opiates.

HARTSHORNE says that in all forms of obstruction, purgatives are injurious, and **morphine** hypodermics are good.

Hot rectal enemata are better than cold; and are generally useful. Injections of air are sometimes beneficial. The recommendation which is sometimes made to inject successively the two solutions of a Scidlitz powder, is very dangerous. No one can tell just how much pressure will thereby be brought upon the intestinal walls, nor whether the latter are in a condition to withstand such pressure.

It is our belief that an early and bold use of the knife will prove more successful than any other remedies.

8. INTESTINAL HEMORRHAGE.

ALLCHIN orders rest, abstinence from food, and **opium**; with cutaneous stimulants, and local astringents, such as **turpentine**, f 3j, in an enema of starch. Tincture of iron, or acetate of lead, may be injected, but tannin is too slow. The best remedy is **ergotin**, given in the dose of two grains, hypodermically. Bitartrate of potassa in doses of two drachms, with the local application of a saturated solution of perchloride of iron in glycerine are useful in the bleeding of piles. For this also, and for vicarious hemorrhages, tincture of **hamamelis** in doses of five drops, has proved useful.

When the hemorrhage is the result of engorgement of vessels it should be let alone, or a little sulphate of magnesia given, with sulphuric acid. Stimulants should be avoided.

9. INTESTINAL INFLAMMATION.

(See diarrhea, dysentery, etc.)

10. INTESTINAL ULCERATION.

ALLCHIN recommends bismuth, copper, etc., with bland diet, nutrient enemata and rest.

When the ulcers are beyond the reach of local treatment, we have found the best results to follow the persistent use of **hydrastis**, thirty minims of the tincture, before each meal; together with enemata of hot water, when the ulcers were in the colon.

JAUNDICE.

(See Duodenal Catarrh.)

KIDNEY DISEASES.

1. HYPEREMIA, OR CONGESTION.

STEWART recommends dry cups, leeches, the vapor bath, or hot applications over the kidneys; together with the treatment indicated by the causative disease.

Diluents and weak alkaline waters are of advantage when albuminuria exists without active irritative symptoms.

2. PYELITIS.

STEWART puts the patient on a diet of milk and diluents. In acidity of the urine he gives alkalies; in alkaline urine, mineral acids.

Uva ursi, pareira, buchu, triticum repens, copaiba, and sandal seem to diminish irritation. In acute cases he uses poultices to the loins, and gives opium or henbane.

In chronic pyelitis the same plan should be followed, and astringents used to restrain the flow of pus.

LOOMIS calls attention to the necessity for tonics and a nutritious diet in chronic pyelitis. Alkaline waters are useful. Aspiration is indicated when a tumor can be reached through the skin.

LARYNGEAL DISEASES.

1. ACUTE LARYNGITIS.

SAJOUS orders a hot mustard foot-bath at the beginning, followed by free diaphoresis, avoiding all drinks. Tincture of **belladonna**, given in doses of five drops every hour until its physiological effects become marked, counteracts the tendency to infiltration. **Steam** may be inhaled with benefit. A twenty per cent. solution of cocaine sprayed on the part, ought to prove beneficial.

COHEN recommends sprays of alum or sulphate of zinc, five grains to the ounce of water. Leeches may be used advantageously. Marked œdema with increasing dyspnea calls for scarification.

MORELL MACKENZIE recommends inhalations of **benzoin**, hemlock or hop; and prohibits strictly the use of the voice, and the use of irritating food or drink. A compress to the neck often arrests an attack. The cough should be kept in check by opium.

NIEMEYER recommends the drinking of warm milk and seltzer, and the eating of salt herrings. Hemorrhage from the larynx requires the application of **tannic acid** to the bleeding spot.

In children, MACKENZIE joins in the recommendation of **steam**, by the use of the croup-kettle or tent. Emetics of zinc or copper may be occasionally required. He does not approve of the local use of nitrate of silver.

STOERK, however, employed it with advantage, in the strength of forty grains to the ounce of water. The latter author also speaks favorably of the use of **ice**, externally and internally.

LOOMIS thinks that few practitioners have the requisite skill to use the silver solution topically, without doing more harm than good. **Quinine** has the greatest power in controlling the disease. Twenty grains should be given in the first twenty-four hours, to a child three years old.

Absolute rest from speech and from coughing must be secured. Small doses of Dover's powder should be given during the day, and a full dose at bedtime. The inhalation of steam is a great comfort. The cold compress may be used in all cases, as follows: A folded handkerchief is wrung out of cold water and applied to the throat. Warm, dry flannels are wrapped around the neck, and this is allowed to remain four hours before it is changed. This is a deservedly popular remedy in Germany, where it has supplanted the hot sponge and the bacon rind.

2. SUBACUTE LARYNGITIS.

SAJOUS prescribes absolute rest and confinement to the room. An attack may be cut short by a dose of **castor oil**. Aconite, in drop doses every hour, also succeeds occasionally. When the malady has existed for some time, a wineglassful of wine of coca, every three hours, generally brings relief in two days. In actors this may be aided by the use of a two per cent. solution of cocaine in spray. Other remedies have been found useful, such as cubebs, ten grains every three hours, and inhalations of camphor.

3. CHRONIC LARYNGITIS.

MACKENZIE considers local astringents the most important remedies in this affection. He mentions the following:

Ferri perchlor., gr. lx;	water or glycerine,	f ʒj
Ferri persulph., gr. lx;	"	f ʒj
Ferri sulph., gr. cxx;	"	f ʒj
Cupri sulph., gr. x;	"	f ʒj
Zinci chlor., gr. xxx;	"	f ʒj
Zinci acet., gr. v;	"	f ʒj
Zinci sulph., gr. x;	"	f ʒj
Alumin., gr. xxx;	"	f ʒj
Alum. chlor., gr. lx;	"	f ʒj

Glycerine is a better solvent when a prolonged action is desired. He uses the chloride of zinc most frequently, but considers that the agent used is immaterial, provided it is applied accurately and often enough. It should be applied daily for a week, then on alternate days, twice in the third week, and so on. In cases with profuse secretion turpentine does good.

When the membrane is dry and shining, carbolic acid is the

best application; thirty to sixty grains of the pure acid to the ounce of glycerine. For spraying, he prefers tannic acid, one to five grains to an ounce of water. It should be used for five minutes and repeated four times daily. Great benefit is often obtained from steam inhalations impregnated with some volatile agent, such as pine oil, creasote or juniper.

R Ol. pini sylvest.,.....℥ xl
 Magnes. carb.,.....gr. xx
 Aqua,.....f ʒ j

M. S.—Add a teaspoonful to a pint of water at a temperature of 140°. To be inhaled for five minutes night and morning. Six inspirations should be taken in a minute.

Creasote may be used in the same strength, and juniper in one-half the quantity.

Paresis from persistent congestion requires electricity. The voice should be used as little as possible. If the patient must talk, let him whisper. An elongated uvula may be amputated. As the pharynx is generally affected, astringent lozenges are useful.

NIEMEYER spoke very favorably of the waters of Ober-Salzbrunnen, Ems, and Selters. The French laud the sulphur waters of Eaux Bonnes, Aix-les-Bains and Marlioz.

If suitable atmospheric conditions cannot be selected, the patient must wear a respirator. The body must likewise be protected by proper clothing.

SEILER applies a sixty-grain solution of nitrate of silver to ulcerated spots.

SAJOUS makes the same application, but first anesthetizes the spots with a ten per cent. solution of cocaine.

4. OEDEMA OF THE LARYNX.

MACKENZIE thinks leeching is often serviceable. The inhalation of tannin solution may be tried. **Ice** should be swallowed uninterruptedly, and the patient kept constantly under the influence of **bromide of potassium**. Scarification is often necessary. Warm gargles and inhalations should follow. Tracheotomy may be had recourse to, and should be performed early.

The introduction of O'Dwyer's tubes seems destined to do away with the necessity of scarification or tracheotomy in this affection.

5. TUBERCULAR LARYNGITIS.

BOSWORTH outlines his very successful method of treatment as follows:

- a. Thorough cleansing.
- b. The application of mild astringents, alteratives or resolvents.
- c. The application of anodynes.
- d. The application of iodoform.

SAJOUS recommends for the first purpose, a solution of **borax** with Sass' spray tube.

Cocaine is the greatest of anodynes; and may be sprayed in the form of a two per cent. solution. Nitrate of silver, two grains to the ounce of distilled water, should next be applied, by spraying, as the astringent.

The **iodoform** is best used by ELSBERG's method; spraying a saturated ethereal solution.

The dysphagia is best relieved by applying the cocaine solution shortly before eating, or by using the same agent in the form of a lozenge. When ulceration has rendered deglutition impossible, the patient must be fed by a stomach tube.

In case cocaine and iodoform cannot be used, **morphine** gives the most relief which can be obtained. It need not be insufflated, as Mackenzie advises, but may be given by the stomach, dissolved in **hot** water.

6. SPASM OF LARYNX.

WALKER pays attention to the diet, bathing, general management and digestion. He advocates the persistent use of bromide of potassium, and has also found chloral of value.

For the attack, the child may be immersed in a warm bath, and an emetic, or an anesthetic inhalation should be employed. Should breathing not be reëstablished when the spasm ceases, dash cold water in the face and chest, rub the body, apply ammonia or vinegar to the nostrils, and employ artificial respiration.

Tracheotomy may be requisite.

Ammonia is not a safe drug to be inhaled in this affection, as it is apt to be used too freely in the fright of the nurse, and to be followed by serious broncho-laryngeal irritation. Amyl or bromic ether should be efficient agents for inhalation in this disease.

LEAD POISONING.

FERRIER says that in acute cases the stomach should be promptly emptied by the pump, or by a dose of sulphate of zinc. **Sulphate of magnesia** should be given to form the insoluble sulphate of lead, and to expel it from the intestinal canal.

In chronic poisoning, prophylaxis is the first consideration. Cleanliness must be inculcated, avoiding eating with unwashed hands, or in working clothes, or in work-shops. Free ventilation should be secured, the dust should be intercepted by respirators, and sulphate of magnesia should be taken occasionally. **Sulphuric acid** lemonade may be used as a drink. For lead colic, he advises purgatives and opium.

Iodide of potassium is given to remove the lead from the tissues, with good results. Sulphuric baths are also recommended.

Local paralysis require the galvanic current applied to the muscles and the nerve-trunks.

HAMMOND uses the **iodides** for all forms of chronic lead poisoning.

In lead colic he injects morphine hypodermically in doses sufficient to keep the pain in check, while the iodide is doing its work. In paralysis he prefers the induced current when it will act. Frictions, massage and passive exercise are also useful.

PEPPER recommends strychnine internally for the paralysis.

HAY prefers the chloride of sodium to the iodides because the chloride of lead is more soluble than the iodide, and is readily eliminated by the kidneys.

BRISTOWE administers opiates, but uses warm enemata instead of purgatives.

NAUNYN says that the eliminative action of iodide of potassium is so great, that its habitual use is a sure prophylactic against lead poisoning in those exposed to the action of this metal. He affirms positively that sulphuric acid has no efficacy whatever; as the sulphate of lead is as poisonous as the other saturnine salts. Respirators are too great a hindrance to the work.

For paralysis he recommends **strychnine**, quoting LANQUEREL's statements approvingly. The latter author gave this drug in sufficient doses to cause slight tetanic spasms. The dose of two grains, which LANQUEREL gave, was undoubtedly, as he says, of an impure specimen of strychnine.

Alum is a very effectual purgative in lead colic. It may be given in half drachm doses every two hours. Opium does not increase the constipation, but on the contrary assists materially in relieving it. Massage of the abdomen, or kneading with hot camphor liniment, also aids in removing the pain and starting the bowels.

LIVER DISEASES.

1. HYPEREMIA, OR CONGESTION.

THIERFELDER directs attention to the causes, such as gluttony, with sedentary habits. Highly seasoned foods, rich in fat, hard to digest, and producing flatulence, are to be avoided; as well as alcohol and strong coffee. Milk and pastry are inadmissible.

The best diet consists of lean meat, eggs, white bread and tender vegetables.

The patient should alternately sit and stand while at work, should frequently take a long breath, should take plenty of varied exercise and drink plenty of water.

If dependent on suppression of the menses, means may be employed to restore this flow, especially by the use of hot baths to prevent a recurrence, or by venesection to relieve a hepatic **afflux** already established.

When the hyperemia is due to mechanical obstruction, it also should receive its appropriate treatment.

When the causal indication can not be met, or a cure has not

been obtained, the blood in the liver must be reduced by salines, such as **Carlsbad** water, or Friedrichshall. The herb, grape, and whey cures, all are beneficial but less certain. When these cannot be used, he recommends the ordinary cathartics.

In severe acute cases **leeching** is indicated, as well as ice-bags over the liver.

In other forms, poultices alleviate the suffering.

WARD recommends **chloride of ammonium** and iodide of potassium for chronic congestion. In acute cases a single four-grain dose of **calomel** will often relieve vomiting, and settle the stomach.

2. HEMORRHAGE OF THE LIVER.

THIERFELDER says the treatment consists of the local use of **cold**, with anodynes and restoratives.

3. PERIHEPATITIS.

THIERFELDER advises rest, and the continued application of cataplasms or compresses. Ice-bags are preferable to moist, warm substances. Severe pain calls for **leeching**; in feeble persons it is better to substitute **morphine** hypodermics. Long continued pain may be remedied by blisters or iodine.

4. HEPATIC ABSCESS.

THIERFELDER objects to venesection, but advises **leeching** to relieve tenderness and dyspnea. Cold compresses changed every five minutes may be used for the same purpose. He sanctions the use of **purgatives** after the leeching. Emetics are of doubtful utility, and the same may be said of tartar emetic, calomel and chloride of ammonium. Blisters appear useful in the declining stages. After the fever has subsided, warm compresses and baths hasten resorption. **Opiates** may be required to relieve pain and sleeplessness. In dysentery, all lowering measures are contra-indicated. The diet should be restricted to light soups, diluted milk and other liquid nutriment.

In less acute cases, ROUS thinks an emetic shortens the hyperemic period. If the affection run a slow course, the treatment should be that of chronic hyperemia.

When suppuration takes place, all weakening measures must be laid aside. For inflammatory symptoms, he then depends upon blisters, poultices and laxatives. The patient should be as well nourished as the digestion will permit. Beer and wine are now allowed. Quinine and iron are to be given as tonics. The bowels are to be kept in a regular condition. Sleeplessness and pain require narcotics. The patient should be kept in the recumbent posture as far as possible.

The abscess should be opened, by DE CASTRO's method, with a trocar and canula; the latter being left in the wound and replaced by a drainage tube. For small abscesses the aspirator may be employed; in larger collections free drainage is preferable. To cure the fistula remaining, **iodine** has been injected with success.

MACLEAN recommended the use of the aspirator before suppuration has occurred, to relieve the hyperemia by abstracting blood directly from the liver.

MACPHERSON advises that the opening shall be put off as long as possible, and made as low down as convenient. A long sea voyage assists the healing process.

5. CIRRHOSIS.

THIERFELDER advises as prophylactic treatment, the disuse of all alcohol, spices, and strong coffee. The use of meat should be limited; the proper diet consisting of milk, farinaceous articles, vegetables and fruit.

Violent pain may be relieved by rest in bed, bleeding beneath the right ribs, and leeches around the anus, followed by poultices over the liver; with saline purgatives internally. For dull, long persistent pain, a course of Carlsbad or Kissengen is indicated. Malaria and syphilis require their own treatment.

The late stages permit only a symptomatic treatment. Poultices and dry cupping are to be employed for pain. Nutrition must be maintained by all means. For gastro-intestinal catarrh the carbonated alkalies, alone or with the aromatic bitters, Carlsbad salts, rhubarb and aloes, are appropriate remedies. FRERICHs recommends the **choleate of soda**, to regulate the digestion and allay tympanites.

Iron is often beneficial, the ascites diminishing under its use. Other remedies, such as diuretics are only exceptionally useful. English physicians have observed marked benefit follow the administration of **copaiba**, in doses of ten to twenty grains; the urine increasing fourfold, and the dropsy disappearing. WILKS found the resin of copaiba even more efficacious; while KLINGER obtained brilliant results from the use of the ethereal spirits of turpentine, in doses of twelve drops, thrice daily. Drastic cathartics do more harm than good, except in exceptional cases.

Paracentesis reduces the ascites more surely than any other remedy, and with less danger. The functions of the stomach and intestines improve after the operation, and the removal of pressure on the peritoneal veins lessens the fulness in the portal rootlets. But from this results a renewed and increased transudation of the albuminous serum, and consequent further impoverishment of the blood. Hence, the improvement after the operation is but transitory, and nutrition is more rapidly impaired. The operation, then *should only be undertaken to relieve dyspnea, and not to carry off the exudation.*

J. WICKHAM LEGG says that in the early stages of cirrhosis it is most important to induce the patient to give up his habits of intemperance, for without this, treatment will be of little avail. Next, the use of alkaline purgatives, with or without vegetable bitters, such as chiretta or calumba, will be very useful. A course of the waters of Carlsbad is often most useful, or other alkaline or iodised waters. The diet must be mild; and exercise on horseback or on foot should be recommended.

In the later stages of the disease, the great object will be to keep up the strength of the patient. For the ascites, which often becomes the patient's great trouble, diuretics, especially copaiba, and mercurial alteratives may be employed. Paracentesis should be put off as long as possible, as the end of the disease often arrives soon after the tapping, though in some cases the ascites is cured by this operation. The flatulence should be combated by regulation of the diet, by charcoal, by small doses of hydrochloric acid, and by carminatives. The bowels must be kept open, but not severely acted upon.

LOOMIS states that in the early stages, if the congestion be intense, leeches to the anus, mercurial purges, and **nitro-muriatic acid** will be of temporary service. The importance of a restricted diet, and the free use of saline waters in this stage, cannot be over-estimated. **Cod-liver oil** also is now indicated. When contraction has taken place, all treatment is but palliative. Mineral acids with calumba assist stomach digestion; creosote and sulphite of sodium check acid fermentation. The mineral waters should be discontinued in this stage. The bowels may be regulated by small doses of rhubarb and ipecac. Diarrhea and hemorrhage should not be suddenly checked, but if they become exhausting, **opium** may be cautiously given. For the dropsy, drastics, tapping, diaphoretics or diuretics may be used, according to the special indications. Diuretics have more effect than in any other form of dropsy, but will not act unless the pressure on the kidneys be slight. After the fluid has been removed by tapping, the rough surface of the liver may cause peritonitis by friction upon the delicate mesentery.

The following prescription will be found of service, even in advanced cirrhosis, while in recent cases its use is invariably followed by improvement:

R Ammon. chlorid.,.....3 ij
 Acid. nitromuriat.,.....f3 ij
 Aquæ, q. s., ad.f3 j

M. S.—To be painted over the region of the liver; and also to be taken internally in doses of twenty drops thrice daily, well diluted.

Several cases have been reported in which a permanent cure, or at least an arrest of the progress of the disease has followed paracentesis. In one case a small trocar was introduced and allowed to remain in the wound for some weeks; thus permitting the fluid to drain out as fast as it exuded into the peritoneal cavity. If the disease have not advanced too far, it would be well to give this method a trial; although it is our conviction that it will only exceptionally succeed.

In all other cases, it must be borne in mind that the operation of tapping is not undertaken with the object of removing the fluid, but to relieve dyspnea. The more fluid is removed, the less is the pressure upon the *outside* of the mesenteric veins, and the more readily will their serous contents escape into the

peritoneal cavity. Hence, only enough of the ascitic fluid should be removed to relieve the breathing; about half a pint at each operation.

In the last months of life, when paracentesis must be performed nearly every week, permanent drainage has in our hands proved of great benefit. We use a small trocar, the size of a darning needle, with a tight-fitting silver canula. To this we attach a rubber tube which conducts the fluid into a bucket of water which is placed under the chair. The comfort derived from this contrivance is very great; and as yet we have found no bad effects follow the procedure.

6. SYPHILIS OF THE LIVER.

There is no special treatment for this affection other than that for syphilis generally.

7. ACUTE ATROPHY.

THIERFELDER treats the first stage as he does acute gastric catarrh and catarrhal jaundice.

In LEICHTENSTERN's alleged successful case, the only medication consisted in a mild purgative of calomel and jalap. In other cases which resulted in recovery, **drastic cathartics** were used repeatedly; laxatives would be therefore still advisable.

LOOMIS recommends **leeches** and hot fomentations, with **morphine** hypodermically, when the hepatic pain is intense.

When cerebral symptoms develop, chloric ether in drachm doses every hour will often quiet the wildest delirium. Hemorrhages can usually be checked by astringents and cold. Bismuth or strychnine will sometimes relieve the vomiting. Bicarbonate of soda, in ten grain doses every hour, has been given with apparent benefit.

FRERICHS reported a recovery under the use of mineral acids and purgatives.

BARTHOLOW thinks that if the disease have any relation to the bile, podophyllin, euonymin, ipecac., etc., with the mineral acids, are indicated.

The best results will be obtained from the use of a large dose of **quinine** and morphine in the incipency of the disease. He also advises the use of very small doses of phosphorus, as early as possible. Alcohol should be given freely.

8. CANCER.

LEICHTENSTERN simply states that treatment can have no other object than to sustain the strength of the patient, and to relieve the pain and lessen the discomforts of the disease.

9. AMYLOID DEGENERATION.

SCHUEPPEL says that when once the disease has become recognizable there is no prospect of arresting it. Hence it is imperative to combat the affections which lead to this affection; such as chronic suppurative disease of the bones or joints, chronic ulcers, and syphilis. In all these, great attention must be paid to nutrition. The diet should consist largely of meat, the clothing should be warm, and the patient should reside in a pure and mild atmosphere. Otherwise the treatment is symptomatic.

To reduce the size of the spleen, the best remedy is **iodine**; especially in the form of the iodides of potassium and of iron.

BUDD got good results from the **muriate of ammonia**, ten grains, thrice daily. The milder waters of **Ems** are less debilitating, and therefore preferable.

LOOMIS speaks of the potassic salts rather approvingly, and says they may be given without fear of injury.

10. FATTY DEGENERATION.

SCHUEPPEL says that when the disease is due to luxurious and inactive habits of life, or to alcoholic excess, we may hope to reduce the accumulation of fat by cutting off its source of supply. The diet must be limited in amount, and poor in fats, starch and sugar. Alcohol is objectionable, especially heavy beer and sweet wines. The patient must be restricted to a glass of light red wine, and he should drink water freely. He must not sleep too long, nor after dinner, must rise early and take active exercise, physical and mental.

If fatty heart exists likewise, this régime must not be introduced too suddenly; nor should alcohol be withdrawn too abruptly. The dietetic regimen may be aided by the use of the alkaline and saline waters of **Carlsbad**, Vichy, Kissingen, etc. Anemic subjects, and women who are fat and subject to amenorrhea, can use the chalybeate waters. Herb and fruit cures are better suited to weakly persons. The digestion should be carefully maintained. In tubercular cases no diet treatment is available. Cod-liver oil and milk should not be used.

11. MELANOTIC OR PIGMENT LIVER.

SCHUEPPEL says that as this affliction depends on malaria, the therapeutics should be directed against that disease, and hence **quinine** is our main resource. Otherwise the treatment is symptomatic.

12. ECHINOCOCCUS OF THE LIVER.

KUSSMAUL's maxim is not to wait until the growth of the parasite threatens life. Constant danger attends its growth, and healing takes place more readily when the cyst wall has not had time to become rigid.

HELLER dismisses medical treatment as useless.

The surgical measures which may be considered are, 1st: simple puncture, aspiration, injection of iodine and electrolysis. The first and last are preferable. 2d: Opening and emptying the sac, and causing adhesion of its walls by cauterization, the introduction of needles or of trocars.

SIMON recommends multiple punctures. Four trocars are introduced, five centimeters apart, and left in position until fluid escapes beside the canula. Fifty cubic centimeters are removed each day. In five days, suppuration begins. If reaction be slight he waits a few days longer. If not, the punctures farthest apart are united by an incision. Subsequent treatment may be conducted antiseptically or not. The early removal of the cysts is thought by SIMON to be of special value.

It is recommended that only a portion of the fluid shall be withdrawn at the first aspiration. Absolute rest should be enjoined

for some days after the operation. It is not necessary to wait for adhesion to form between the tumor and the parietes of the chest.

It was found accidentally, that when bile is effused into a hydatid sac it occasions the prompt destruction of the parasites. Accordingly ox-gall has been injected instead of iodine, and the former has proved more efficient and less painful than the latter.

13. CATARRHAL JAUNDICE.

SCHUEPPEL refers to the treatment of gastric catarrh, when that has been the starting point of the jaundice.

If due to cold he advises the patient to take a **vapor bath**, and remain in bed afterwards, drinking warm teas. Alkalies act favorably by increasing the flow of bile, and consequently the pressure in the duct, and also by increasing the solvent power of the bile upon the mucus which helps to occlude the duct.

KRULL employs large injections of cold water, one to two litres, at 59° F. once daily. If used oftener, the temperature is gradually raised to 72°, as the rectum will not tolerate repeated cold injections. The water must be retained as long as possible. Seven injections are sufficient. No drugs are used and the patient is allowed his ordinary diet. The first effect is the disappearance of epigastric pressure, nausea, headache and anorexia. If the case be not too chronic this result is achieved in one day, and complete recovery occurs within a few days. In half the cases feces covered with bile were passed after the second injection; in all cases this occurred within four days. The rapid disappearance of all gastric symptoms is a striking feature.

GERHARDT recommended **faradisation** over the gall bladder, and emptying that viscus by compressing it between the fingers and the spine.

SCHUEPPEL recommends in most cases a purely symptomatic treatment. The patient must stay in bed if he have fever, use light diet, cooling drinks, laxation, if needed, or enemata, opium for diarrhea, poultices for pains, etc. Pruritus may be relieved by lotions of diluted vinegar or by chloroform inunctions. Warm baths help to remove the bile from the skin and relieve the itching. If the jaundice continue long, **nitro-muriatic acid** may be used internally and externally, and Carlsbad or Vichy water.

LOCOMOTOR ATAXY.

CLARKE urges the importance of protecting the patient from cold and wet, and from variations in the temperature. A generous diet, with wine or beer, seems suitable. **Nitrate of silver** seems to have the most specific influence over the disease. One-eighth of a grain should be given three times a day, and gradually increased to a grain at each dose. The oxide is a useful substitute. Dry cupping along the spine has been found useful. For the severe pains in the limbs he recommends **morphine**. He believes that constipation aggravates the complaint. Sulphur baths, cod liver oil and phosphorus have been used with benefit. So also has the galvanic current.

A. M. HAMILTON gives **ergot** and **bromide of sodium** in the early stages to control the pain.

TROUSSEAU suggested **belladonna** and **turpentine**, for the pain and vesical tenesmus.

R Ext. belladonnæ,.....gr. iv
 Ol. terebinthinæ,.....f3 ij
 Ol. theobromæ, q.s.

M. et in capsul. no. xij, div.

S.—One thrice daily.

MANN claimed that this disease is curable in the early stages. He relied on **electricity**, using both currents along the spine. He also used blisters, and the chloro-phosphide of arsenic. For the lightning pains he put much faith in nerve stretching.

GRANVILLE reported excellent results from **nerve-vibration**. Persistence in the vibration of irritable nerves exhausts their excitability; they then become submissive to the will. When the nerves have become steadier, and walking easy, the percussion may be applied over the spine.

ERB} advises as prophylactic, the combating of the neuropathic tendency by diet and hygiene, and the prevention of onanism and sexual excess. The causal indication can only be met when there are evidences of syphilis.

Dry cups may be used to relieve pain. He has never obtained benefit from the cautery or other counter-irritants. Thermal baths are injurious; and neither sulphur, saline, chalybeate nor mud baths have been conclusively shown to be beneficial.

The **cold-water cure** is especially commended. He advises wet rubbings (beginning with water at 77° F. and going down to 68°, and never below 59°), half-baths at 86° to 70°, with simultaneous washing and sprinkling of the back; and further, mere washing of the back and feet, wrapping feet and abdomen in cold compresses (which warm themselves), and occasionally a hip bath.

The wet pack should be used with extreme caution, beginning at 86°; it is seldom borne below 77°.

CZERWINSKI recommends only tub baths, at 81½°, lowered gradually. Still, some bear cold very well. Anemic, weakly and irritable patients are the least fitted for this treatment.

In choosing a water cure, preference should be given to an institution situated in the mountains, with convenient walks, good attendance and not too noisy. The best season is the summer. Of 19 cases treated by ERB in this manner, 16 were benefited, two were not improved, and one grew slightly worse.

Of 66 treated by the **galvanic current**, 44 were improved and 22 received no benefit. As to the method employed, almost all authors agree in treating the back directly, with moderately strong, chiefly stabile, sometimes labile currents, with short sessions.

VON KRAFT-EBBING advises simple stabile currents through the spine, of four to six minutes duration; with the labile action of the cathode on the nerve trunks. He claimed that six or eight sessions determined the result, but ERB does not agree with this. The latter fixes the cathode over the superior ganglion on one side of the neck, and the anode on the opposite side of the spine between the shoulder blades, moving downwards very slowly till the terminal cone is reached. This is repeated on the other side. To this he adds direct treatment through the spine, anode below, and cathode above, slowly changing their positions. This will be modified in various individuals, as far as the duration, intensity and localization of the currents is concerned. In irritable persons

with severe pains, it is well to use weak currents. He adds to the above, peripheral galvanizations of the leg-nerves (cathode labile) twice a week.

The sessions last from three to six minutes, strong currents are to be avoided, and treatment takes place daily for months.

If the pains increase, and insomnia sets in, the galvanic treatment must be given up.

Among internal remedies the **silver** salts stand first. The dose is one-sixth to one-third of a grain, several times a day; so that almost one grain and a half is used in a day. It may be continued until two drachms and a half have been used, and may be resumed after an interval.

SIREDEY found the **bromides** to mitigate the pains and the incoördination when given to the amount of two and a half drachms daily. He looks with disfavor on iodide of potassium, belladonna, ergot (in spite of WALDMANN'S encomiums), arsenic, gold, chloride of barium and phosphorus. Strychnine is decidedly objectionable. Cod liver oil appears to have a favorable effect on the nervous system, besides its nourishing qualities.

Particular attention is to be given to the diet and the habits of life. Moderation is counseled in all things. The utmost indulgence in fresh air in mountain, forest, or at the shore is recommended. As a feeble substitute for a Winter in the South, WALDMANN lauds **oxygen** inhalations. Over-exertion must be avoided. In old incurable cases, we should dissuade patients from useless attempts at curative treatment. Attention to the general health, with cold rubbing, etc., will prolong life.

In treating the symptoms, pain demands the first attention. For the lancinating pains we are often helpless. Sometimes one remedy out of the following list will prove useful: sinapisms, blisters, warmth, cold compresses, opium or belladonna plasters, rubbing with chloroform, veratrine or oil of hyoscyamus; faradisation or galvanization (stable cathode) of the painful and hyperæsthetic points of the skin; but above all, the subcutaneous injection of **morphine**, which only too soon becomes a necessity. Besides these, ERLENMEYER has recommended the hydrobromate of quinine, and LEYDEN the iodide of potassium.

Against anesthesia, motor weakness and muscular atrophy,

electricity is the only remedy. The same agent is useful in weakness of the bladder; while for amaurosis, there is nothing better. Constipation should be treated by the mildest possible means, by diet, enemata, and faradisation. Gastralgia requires careful diet and morphine.

For the pollutions and sexual excitability the remedy is bromide of potassium. Lupulin and camphor are also of service, as well as cool hip-baths, and avoidance of fulness of the bladder and of dorsal decubitus at night.

DUJARDIN-BEAUMETZ forbids prolonged muscular fatigue, and sexual intercourse. He recommends punctiform cauterizations along the spine, especially where irritation or congestion of the cord appears. He gives **silver**, or phosphorus in the remissions. **Phosphorus** will nearly always produce an amelioration, perceptible to the patient. For the lightning pains he uses morphine, heat or cold. Nerve-stretching is not approved. Cold douches only augment or provoke spinal congestion. He has abandoned hydrotherapy.

He speaks favorably of **thermal** treatment; especially that practiced at Neris, Balaruc and Lamalou. He thinks we ought always to employ electricity, without expecting much benefit from it.

BROWN-SÉQUARD obtained benefit from iodide of potassium, belladonna and ergot; but ROSENTHAL failed to verify his favorable results. In his estimate of the value of hot and cold hydrotherapy, ROSENTHAL agrees with ERB, and the German writers generally.

Notwithstanding ERB's unequivocal condemnation of **strychnine**, it has the same claim for favor in this disease as in myelitis generally. The observations at post-mortems simply reveal the embers of a burnt out fire, and there must be a stage in this disease in which the tissues are not yet irreparable damaged. One such case came under my notice, which recovered under the persistent administration of strychnine, in the dose of $\frac{1}{40}$ to $\frac{1}{30}$ grain four times daily. To this were added the influence of rest, counter-irritation and a full alimentation; all which, except the last, are remedies of little utility in the eyes of ERB.

LUNGS: DISEASES OF

(See Emphysema, Bronchitis, etc.)

1. GANGRENE.

E. S. THOMPSON disinfects the room with sulphurous acid, and uses Condyl's fluid, suitably diluted, as a lotion, gargle or drink. The **sulpho-carbolates**, given internally, remove the odor from the skin.

The introduction of a drainage tube sometimes affords immediate relief. The danger is less when the gangrenous abscess is near the chest wall, and the pleuræ are adherent. The operation should not be performed when there is a reasonable chance for recovery without it, but must not be delayed too long.

The strength must be supported by rich food and stimulants, quinine, ammonia, acids, iron and cod-liver oil.

The spray of creosote or carbolic acid may be tried, or the inhalation of **turpentine** from hot water.

HERTZ advises as of prophylactic value, the proper treatment of bronchorrhea and bronchiectasis, as these conditions favor the occurrence of gangrene.

So, also, in the management of the insane, over crowding and all the other elements of deteriorating health favor the gangrenous process.

To allay the fetor, TRAUBE gave the **acetate of lead**, a grain every two hours. When the fever subsided, he added one grain of **tannic acid**. Others recommend **chlorinated lime**, twenty grains in four ounces of water; a tablespoonful to be taken every four hours, with or without opium—(STOKES).

TROUSSEAU gave **chloride of sodium**, forty to eighty grains, in water.

Other remedies are, wood charcoal; myrrh, five to ten grains at a dose; creosote water; carbolic acid, one to three grains, in water. The efficacy of these is doubtful. HERTZ thinks the only advantage of giving carbolic acid is in its action upon such portions of septic matter as may have reached the stomach.

Inhalations act differently. Although the fungus is not

destroyed, the effect of turpentine, chlorine and chloride of potassium in diminishing the fetid sputa is undeniable.

The best and surest results are obtained from oil of turpentine and **carbolic acid**. The latter is used several times daily; eight to fifteen grains in three ounces of water. **Turpentine** is best used as a spray with an atomizer, ten to thirty minims in three ounces of salt solution.

The general treatment consists in improving the strength in all possible ways.

The fever is to be met by **quinine** in large doses.

A full dose of morphine must be given at bedtime, but expectorants give the best results in the day, by stimulating expectoration.

The patient should remain in that position which best favors the drainage of the gangrenous centre.

LOOMIS, while expressing his disbelief in the efficacy of antiseptics, says that the best is composed of **thymol** and **salicylic acid**, in spray. It is suggested that the cavities be tapped and washed out.

BARTHOLOW praises the effects of **eucalyptol**, given in pearls containing five minims each. **Oxygen** inhalations relieve the dyspnea, and improve the blood. The **benzoate of soda** should be introduced into the lungs by atomization, in as large quantity as possible.

In view of the impossibility of introducing antiseptics into the lung in a strength sufficient to destroy micro-organisms, the suggestion that gangrenous cavities shall be tapped and washed out, deserves a full trial.

2. HYPEREMIA.

R. D. POWELL, says that the first point in active hyperemia is to secure absolute rest in bed, silence, and removal of all sources of excitement. Mustard-poultices, cups or leeches to the chest; warmth to the legs; saline purgatives; and low diet, with no stimulants, may be employed. Astringents should be avoided. **Digitalis** is useful to calm the circulation. If the fever be high, diaphoretics are indicated to meet the approach of pneumonia.

Passive hyperemia calls for active stimulation and high feeding. The patient must be frequently turned. Ammonia, ether, and quinine are of the greatest value; and musk, sumbul and lavender are useful adjuvants.

In obstructive heart disease, the chief indication is the avoidance of catarrhs.

BARTHOLOW says that active congestion in a plethoric subject may demand **venesection**; or at least leeches or cups. An active emetic should be given to clear the bronchi of fluid. Stimulant expectorants are given for the same purpose; such as squill, serpentaria, or senega. To diminish the viscosity of the secretion he recommends the iodide of ammonium.

HERTZ recommends the grape, milk and whey cures, for cases in which slight causes produce cardiac crethism. Such patients should live in the open air, and bathe the chest in cold water, followed by energetic rubbing. **Acids** should be given, and sometimes **digitalis**.

Occurring in severe asthenic fevers, passive hyperemia calls for frequent change in the position, and the administration of stimulants. In very grave acute hyperemia, with acute œdema, a bold **venesection** should be made. Hydremia contra-indicates this step, but interstitial œdema does not; especially if the œdema threaten life, and emetics with derivatives fail to give relief. Venesection is also indicated when œdema of the brain is threatened, but must not be employed when somnolence is associated with an irregular pulse and occasional intermission of respiration, showing œdema of the medulla; for the above symptoms would increase if blood were drawn. The fluid exuded into the alveoli may be removed by **emetics**, and stimulant expectorants, such as senega. Cathartics, sudorifics and diuretics may be also used as adjuncts; with sinapisms, hot foot and hand baths, &c. These remedies are also useful when blood-letting is contra-indicated.

Diuretics are chiefly useful in cardiac cases, and the best is **digitalis**. This drug is contra-indicated by irregular respiration. LEBERT gives it even then, with **ammonia**, camphor or benzoin; or else the latter alone, followed later by digitalis. For the weakened innervation, with irregular respiration, the tincture of **musk**

may be given in doses of fifteen drops, hypodermically; and strong wines.

For the same condition, OPPOLZER recommends **quinine**; and TRAUBE the acetate of lead, in œdema, three-fourths of a grain every hour. In chronic passive hyperemia with œdema, this is but rarely applicable. In Bright's disease, HERTZ extols warm, wet packs for the legs, prolonged for several hours. In cardiac disease, digitalis is still the best remedy, with saline diuretics, expectorants, and quinine, iron, stimulants and rich food.

3. BRONCHO-PNEUMONIA.

T. H. GREEN premises his treatment with the statements that this disease is invariably associated with, and often induced by catarrh; that its occurrence is favored by all weakening agents; and that it kills by interfering with the respiration. The objects of treatment are to cure catarrh, to prevent collapse, and to support the strength. (See Bronchitis). The air should be moistened by steam. The diet must be regulated by the age; it must be easily digested and nutritious, and calculated to support the strength.

Following measles, the gastro-intestinal irritability must not be forgotten. Small doses of ipecac. with salines should be given frequently. Warm and light poultices should be applied to the chest. In young children it is better to apply stimulating liniments to the chest wrap it in cotton wool, and cover with oiled silk.

When the secretion is abundant, its removal may be aided by giving **ammonia**. The chloride may be given with **senega**. An occasional **emetic** gives relief when loose râles and dyspnea indicate an accumulation of secretion. Opium is usually contra-indicated. When violent cough with little secretion follows whooping cough, opium may be given cautiously, or better, bromide of ammonium. The use of **Cold** externally is valuable, to reduce the fever and to expand the lungs. Cold, wet compresses may be applied to the chest from one half to four hours. This may be repeated at intervals for some days. Symptoms of exhaustion indicate the necessity of terminating the application for a time. JUERGENSEN preferred cold baths and affusions. The shock of cold douches relieves threatened collapse, but does not reduce the fever so well as the previous method.

Brandy is valuable, especially to children. It is best given in milk, in quantities suitable to the age of the child, and repeated according to the effect produced.

In the chronic forms of this disease attention to nutrition is of the first importance. Cod-liver oil may be given even before the fever has totally disappeared.

Convalescence is slow and broken by relapses. All causes of catarrh are then to be avoided. A change of air is especially valuable.

JUERGENSEN speaks highly of the use of **oil of turpentine**, in doses of five drops, four times a day, in milk, in the chronic forms. To avert threatened collapse, he places the child in a bath at from 77° to 86° Fahrenheit, and allows him to remain for twenty minutes. Then from ten to twenty quarts of water are poured over him from a moderate height. This water may be reduced to a few degrees above freezing. The affusion must be rapid, and thoroughly showered over the neck, back and breast.

If a thin stream of water be directed against the back of the head, over the medulla, a spot will be found, the irrigation of which produces violent respirations, even when a high grade of carbonic acid poisoning is present.

The younger and weaker the patient, the greater the need of active and prompt interference. A few hours after an affusion, spots previously dull become resonant.

For the cough he prescribes senega with liq. ammon. anisat.

R Ol. anis.,part. j
Alcohol,part. xxiv
Aq. ammoniæ,part. v

M. S.—Liq. ammon. anisat.

For obstruction by profuse secretion, the best emetic is **apomorphine**, when pure and fresh.

R Apomorphinæ hydrochlor.,gr. x
Glycerini,
Aque, āā q. s. ad.....f ʒ j

M. S.—For hypodermic use.

Never give tartar emetic in divided doses.

LOOMIS altogether disapproves of the cold applications. He prefers the use of poultices or liniments. **Stimulants** must be used at the outset. **Quinine** may be given in full doses during the fever, and to aid resolution in the active stage. Ten to twenty grains may be given daily to a child three years old. As an emetic he prefers **ippecacuanha**. The position of the patient should be frequently changed. If the disease be prolonged, cod-liver oil, iron by hydrogen, or iodide of iron should be given, with change of air.

BARTHOLOW recommends the carbonate (gr. iij to vj), and the iodide of ammonium (gr. iv to viij), in solution every two hours.

In subacute cases, oil of turpentine, **eucalyptol** and **copaiba**, are very active in checking the secretion and expelling it. **Copaiba** is the best, and may be pushed. As an emetic this author favors **subsulphate of mercury**, two to four grains, in sugar. High fever calls for—

R Tinct. aconit. rad.,.....f 3 j
Tinct. belladonnæ,.....f 3 ij

M. S.—Six drops every two hours, to a child of two years.

Continued fever demands **quinine** and **digitalis**; five grains of the former and one-fourth of a grain of the latter thrice daily to a child two years old.

In subacute and chronic cases he uses iodide of ammonium with the lime phosphates.

The best local applications are turpentine stupes.

The inhalation of oxygen sometimes gives great, though but temporary, relief. The inhalation of turpentine vapor might be useful.

It must not be forgotten that the undue pushing of alcohol is open to the same objection which forbids the use of opium—the danger of narcotism. The plan recommended by JUERGENSEN is certainly efficient when collapse is occurring extensively, when carried out by the physician in person, but it is rare to find nurses to whom it can be entrusted.

4. CHRONIC PNEUMONIA.

T. H. GREEN remarks that when fibrosis is established, it is hardly necessary to say that the new growth is incapable of

removal, and by treatment we can only hope to influence the extension of the disease, and control the bronchial catarrh so often present.

The management of this catarrh constitutes the most important part of the treatment. A climate should be selected which is equable, dry and moderately bracing.

The patient should be warmly clad, and everything should be done by diet and exercise to improve the health.

Cod-liver oil and iron are often useful. Acute catarrhs should be treated promptly. Profuse secretion demands inhalations of **iodine**, turpentine, creosote and carbolic acid. **Turpentine** may be given internally with the same object. Opium and chloral are to be used for cough.

RUEHLE speaks favorably of counter-irritation with **iodine**.

The climate of Colorado is thought to be especially useful for the more vigorous cases of this disease, while for those whose strength is already much impaired, a residence in Southern California is preferable.

5. CEDEMA.

R. D. POWELL lays stress upon the importance of derivatives. Mustard poultices or dry cups give relief, but blisters are to be avoided. Hydragogues may be given according to the strength of the patient. Digitalis, juniper, broom and nitrous ether are useful in some cases, combined with acetate of ammonia and warm baths. The coëxisting disease of the heart or kidneys will determine the exact treatment. Loss of tone in the vessel-walls demands **iron** with mineral acids. In all cases, rest in bed is necessary. (See Hyperemia.)

6. PNEUMOTHORAX.

POWELL says that whenever death is threatened by dyspnea, paracentesis must be performed with a fine trocar. This may be repeated if necessary.

Rest to the affected side should be secured by strapping it with adhesive plaster. The shock and dyspnea are best treated by opium in small and repeated doses.

FRAENTZEL says that when an empyema has become a pyopneumothorax, we must at once operate by incision. The same advice applies to cases due to wounds. But in those occurring in phthisis, his results have been unfavorable; the patients rapidly sinking after the operation. In these latter cases he confines himself to the treatment of the symptoms, and the use of supporting measures. The best results from puncture are obtained after three days have elapsed from the occurrence of the perforation. The wound has then had time to heal; and the withdrawal of the gas relieves the lungs from embarrassing pressure.

7. HYDROTHORAX.

ZIEMSEN recommends puncturing the pleural cavity with a fine trocar, and removing the serous accumulation.

FRAENTZEL prefers making a couple of incisions into the subcutaneous tissue and letting the anasarcaous fluid drain off, protecting the wounds from infection by suitable dressings.

TRAUBE introduces into the wounds little metallic canulæ, attached to rubber tubes to conduct the serum away. The effect of this procedure is much more beneficial than that of tapping the pleural sac. The medicinal treatment is that of the causal affection.

8. HYPOSTASIS.

JUERGENSEN makes the recommendation that the patient's position be frequently changed. He should even lie on the belly at times. The action of the heart must be stimulated by ammonia, alcohol or digitalis, the latter especially in aged persons. High fever may necessitate the use of antipyretics; but often we are limited to the promotion of nutrition, especially in convalescence.

The respiration must be stimulated. Patients should be made to sit upright, seize some point of support with the hands, and make a stated number of inspirations to the minute. If fever persists, he recommends a cool bath. The sooner the patient leaves his bed and walks about, the sooner will the hypostasis disappear.

9. ATELECTASIS.

HERTZ gives as the best emetic in collapse of the lungs, the following:

R Ipecacuan.,..... gr. xxij
 Antimon. et potas. tart., gr. jss
 Scillæ oxymel.,..... f 3 ijss
 Aquæ,..... f 3 x

M. S.—Shake. Take one teaspoonful every fifteen minutes.

(See Bronchitis, and Broncho-Pneumonia.)

MEASLES.

THOMAS puts the patient to bed in a darkened room, ventilated and kept uniformly at 63° to 67° F.; with the diet suitably regulated, and water given to quench the thirst. Patients must not be kept too cool, nor foolishly loaded with bedding. Too pale an eruption demands slightly more warmth; too marked redness, with severe fever, may need cool applications. The amount of light admitted must be regulated by the state of the patient's eyes. The secretions should be frequently removed with luke-warm water, and cold employed if necessary. For severe coryza, warm water or vapor should be drawn through the nose.

If the cough be violent, the air of the room should be kept at a moderate temperature and frequently changed. If there be severe nervous irritation, the neck may be wrapped with flannel, and mucilaginous drinks administered. Simple laryngitis requires a **cold compress** to the neck. Narcotics should be given only when necessary to produce sleep. An **emetic** given early may check the cough.

Gastro-intestinal irritation is best prevented and treated by avoiding indigestible, flatulent, fatty and laxative articles of diet. Constipation is rarely present, and requires the mildest laxatives. Diarrhea should be treated by cold compresses, frequently changed, or by ice-bags to the abdomen; if less severe, by poultices and regulation of the diet. Narcotics are only to be used in extreme cases; emulsions and astringents are preferable; revulsion by packings and hip baths may succeed. The mouth and throat should be kept clean.

The most important point is the suppression of too high fever in the first and the eruptive stages. Cool baths, packs and compresses are the means now used; the baths when the temperature reaches 103° ; the other measures when it is below this point. ZIEMSEN'S method of bathing is preferred; the patient being placed in water at about 90° , and cold water gradually added until the heat of the bath has fallen to 77° .

If cold water has been used from the start, it will do no harm in the desquamative stage, otherwise it should be made lukewarm only, and gradually made cooler.

As long as fever is present, or severe cough with bronchitis, the patient must keep to his bed.

Where the hydropathic regimen cannot be employed, he substitutes inunctions of lard.

For very high fever, BINZ recommends very large doses of **quinine**. RONCATI gives two drachms of **sulphate of magnesia** daily, as a febrifuge. BROWN rubbed the whole body daily with **oil of turpentine**, diluted, with the best effects upon the bronchitis.

PINKHAM gave **chloral**, two grains every twenty minutes, to a child four months old, with violent and long continued convulsions. Failure of the heart after brain symptoms have developed, may be stayed by the use of **wine**, benzoic acid, or camphor; if the surface be cold, by warm baths and cool douches to the head. Broncho-pneumonia has been shown by BARTELS to occur in small, low, tightly-closed, foul-smelling, crowded dwellings; hence free ventilation is the prophylactic. Emetics are only useful when the larger bronchi are occluded by mucus. The best plan of treatment is the following: Several cloths are wrung out of cold water and laid on dry flannel, and the naked patient is placed upon and wrapped in these. Lively kicking and screaming result, the respiration becomes freer, and the child quiets down and goes to sleep. This is repeated every half hour till temperature, pulse and respiration are markedly reduced. The application should be repeated whenever the symptoms demand it. Dysenteric symptoms require large enemata; with ice for hemorrhage. Pseudo-croup is to be treated by diaphoretics and very hot sponging, perhaps emetics. When

the laryngeal affection threatens to become chronic, the surest remedy is the inhalation of atomized fluids. Gangrene is prevented by cleanliness. When present it demands very energetic treatment ; cauterization, followed by antiseptic dressings.

RINGER dwells on the importance of a suitable diet. He gives arrow-root, gruel, beef-tea, milk, chicken or veal broth, and jellies, at the usual hours for meals. If the patient be very weak, the food must be given in small quantities, at shorter intervals. No stimulant is so important as food. If there be much vomiting, he orders raw meat, Liebig's extract and raw white of egg in water, or barley water, given often. Thirst may be assuaged by small quantities of water, given frequently. Acid drinks are better than water alone. If the patient become prostrate, with dry tongue, and small, frequent pulse, **stimulants** must be given frequently and often.

DAVIS prescribes for the cough and catarrhal symptoms—

R Syr. scillæ comp.,.....f ʒ jss
 Tinct. sanguinaræ,.....f ʒ ss
 Tinct. opii camph.,.....f ʒ ij

M. S.—A teaspoonful (to an adult) every four hours.

In severe headache, half an ounce of **bromide of potassium** is added to the above.

If the fever be unusually severe, he adds one drachm of tincture of **veratrum viride**.

In a very severe epidemic of measles in the Philadelphia Hospital, it was found that **brandy** was the most efficient remedy when symptoms of malignancy appeared.

I have been frequently struck with the mildness which this disease assumes when the freest possible ventilation is permitted.

None of the authors quoted have mentioned the great value of **ipecacuanha** in treating measles. In the complications generally, whether bronchial or gastro-intestinal, this drug has beneficial properties which I have never noticed in the same affections when not occurring with measles.

I order a three ounce mixture, with one drachm of wine of ipecacuanha for each year of the child's age. Of this the patient

takes a teaspoonful every two to six hours, according to the gravity of the case.

Occasionally we see convulsions occurring during convalescence, and repeated several times in a day. These are quickly relieved by the administration of **tincture of iron**, in small doses, repeated six times a day.

W. F. W.

MENINGES: DISEASES OF.

1. PACHYMENINGITIS INTERNA HEMORRHAGICA, or Hematoma of the Dura Mater.

HUGUENIN advises symptomatic treatment. Antiphlogistics are generally used, but are unsatisfactory. The primary disease in the lungs, heart, kidneys, or blood, or chronic alcoholism, will require appropriate treatment. During the hemorrhage, leeches should be applied to the temples, and cups to the neck. The bleeding should be ample to be of any benefit. Venesection is sometimes required. The energetic application of **cold** is never to be omitted. Large doses of **calomel** and senna, or saline laxatives, are to be recommended. All excitement must be avoided. After the attack, the treatment is limited to regulating the habits of life. Alcohol, high living, and all active exertion of body or of mind are to be avoided. Absorbents are useless.

2. HYPEREMIA OF THE PIA MATER.

HUGUENIN recommends **venesection**, in severe cerebral fluxion with full pulse, in healthy persons. In other cases the usual train of succedanea is advised, combined and modified as indicated by the age, strength, gravity of the symptoms, etc. The regulation of the habits of life is all important.

3. MENINGITIS TUBERCULOSA. Acute Hydrocephalus or Basilar Meningitis.

HUGUENIN starts out with the statement that we know of no cures. Prophylaxis is consequently of the first importance. As there are forms of meningitis not tubercular, but clinically indistinguishable from it, we must not make our prognosis gloomy

without reserve. Children who are predisposed to tubercular affections should have the full benefit of perfectly arranged hygienic regimen; including sea air in summer, change to the mountains judiciously, salt baths, cod liver oil, etc. Change of climate is markedly beneficial, even when the new habitation is no healthier than the old. Too early mental activity should be prevented; whooping-cough, measles and diphtheria should be shunned; bronchial catarrh must be treated with the greatest care. In all children's complaints unusual care must be taken. *All swollen lymphatic glands which can be reached should be removed by operation.*

The treatment of pronounced meningeal irritation and of compression is only the old antiphlogistic method, regulated by the exigencies of each particular case. **Leeching** gives a little temporary relief, but mustard and similar derivatives do not even accomplish this. Purgatives are of more value. He (Huguenin) uses the ice-bladder to the scalp habitually. Mercury and iodine are continually being revived, and their uselessness demonstrated anew. Cold douches in a luke-warm bath are the best means of dissipating coma. Narcotics are indispensable in case of great jactitation, delirious uneasiness, screaming and objectless movements. **Opium** and **chloral** are useful palliatives; the bromides have no effect whatever. Antipyretics may be used energetically if the diagnosis be doubtful.

GEE thinks many persons recover from acute tuberculosis, and hence cases thought to be of this disease, should be carefully treated to prevent the meningeal affection. In the invasion period the patient should be put in a dark and quiet room, and be carefully and regularly fed; the symptoms should be treated as they arise; the convulsive state lessened by full doses of **bromide of potash**. Continuous applications of **cold** to the head should be made, if the case be seen in the earliest stage. Leeches, purges, &c., will hasten death. The scalp need not be shaved before applying cold.

DUJARDIN-BEAUMETZ claims that tubercular meningitis sometimes subsides, just as tubercular pleurisy does. He reports a case in which recovery ensued, although an ophthalmoscopic examination had revealed tubercles in the choroid.

He prefers the application of **ice** to the head to the employment of counter-irritants, or to the abstraction of blood. The scalp should be shaved.

The good effects ascribed to mercury or to quinine are really due to faulty diagnosis.

To calm the nervous manifestations, he gives **chloral** and the **bromides**, as palliatives.

Iodide of potassium has had such strong testimony in its favor, that it should be given in all cases, to the amount of thirty grains daily, in divided doses.

DAVIS also recommends the iodide, with **veratrum viride** in acute nervous or febrile paroxysms.

LOOMIS simply states that prophylaxis is alone effective. The treatment after the disease is established, is only palliative. He has obtained the best results from **opium** and the bromides.

BARTHOLOW gives two drops of tincture of **aconite** root, and five drops of deodorized tincture of opium, every two hours, during the stage of excitation. For high cerebral excitement, he adds to the above a minim of fluid extract of **gelsemium**. If the convulsions be numerous, bromide of potassium must be given freely.

During the whole duration of the disease, he gives LUGOL'S solution of **iodine**, four to ten drops, three times daily. If depression of function occur, the best results are obtained from giving two grains of quinine and one-sixth of a grain of extract of belladonna every three hours. "An occasional use of these remedies will not suffice—they must be persisted in."

Nor will they 'suffice' then; unless the physician's object be simply to keep on doing something, without expecting to cure. In spite of DUJARDIN-BEAUMETZ' case (a man of twenty-three years), which was not verified by a subsequent autopsy, we must incline to the belief that no method of treatment has yet succeeded in inhibiting the functional activity of the tubercle bacilli in the meningeal sac. Nor do we look for any more favorable results from the latest reported "cure"—rubbing into the shaven scalp a twenty-per-cent. ointment of **iodoform**. This drug has not yet

proved successful in the treatment of tubercular affections within easy reach, and it is scarcely to be supposed that it acquires any new properties in passing through the scalp and the bones of the cranium (providing such a thing occurred), to reach the meninges.

Too much stress can hardly be laid upon the importance of using all known means of prevention. The one fact which stands boldly out, is the necessity of removing all enlarged lymphatic glands which can be reached with the knife.

4. NON-TUBERCULOUS BASILAR MENINGITIS.

HUGUENIN advises **local bleeding**, abundantly and repeatedly; cold to the head, and energetic purging. If there be a turn for the better the seton may be beneficial; blisters and issues are without effect, and the same may be said of quinine, iodine and mercury.

The terrible headache demands the free use of **opium**. Chloral brings some sleep, at least. When the symptoms indicate a lesion of the nerves at the base of the brain, syphilis is to be suspected. In all cases, anti-syphilitic remedies should be tried.

5. MENINGITIS OF THE CONVEXITY.

HUGUENIN says that the treatment is mainly prophylactic, consisting in the careful treatment of every otorrhea.

When symptoms of brain complications arise, the usual remedies against cerebral inflammation, as just detailed, should be used at once.

In the form which arises spontaneously, **venesection** is indicated; and may be repeated several times. **Cold baths** may be employed to reduce the high fever. Small doses of **morphine**, or rectal injections of **chloral**, are often of service.

MENINGITIS: SPINAL.

BASTIAN recommends that the patient be kept in a cool, quiet room, lying on the side or face, on a comfortable bed. He should have spoon diet of the most nourishing sort, with eggs, and stimulants in moderation.

Blisters or iodine may be applied along each side of the spine alternately. **Morphine** should be given to relieve the pain. The treatment should be directed against the symptoms, and by feeding and nursing, the patient may be tided over.

Absorption may be promoted by the use of bichloride of mercury and iodide of potassium.

BARTHOLOW recommends absolute rest in a darkened room, leeches to the spine, the ice-bag if needed, or better, the hot douche or sponge. Internally he gives opium, aconite and ergot. The effect of the opium should be steadily maintained during the stage of excitation.

When depression supervenes, he gives three grains of **quinine** and one-fourth of a grain of extract of **belladonna**, every four hours. Paralysis during convalescence requires electrical treatment. To remove deposits he depends on iodide of potassium.

MENSTRUATION: DISEASES OF.

1. AMENORRHEA.

QUAIN says that the treatment is that of the general state. The amenorrhea should not be interfered with, when due to phthisis, Bright's disease, etc.

When the uterus is undeveloped, stem pessaries or galvanism are advised. In case of retention, an outlet must be made.

SCHROEDER opposes the use of emmenagogues. He endeavors to improve nutrition and strengthen the whole organism by good food, meat, beer and wine, and by an invigorating mode of life, open air, moderate bodily labor, cold washing and rubbing, and fresh and salt baths.

In chlorotic girls **iron** is the only efficient emmenagogue. If dependent on deficient blood supply to the genital organs, he advises foot-baths, sitz-baths, douches, leeches, the sound, and intra-uterine pessaries.

Electricity produces favorable results in some cases.

When the periods are absent and disturbances connected with the genital system are manifested, the emmenagogues may be used.

WILLIAMS thinks that if the menses have never appeared, the uterus is small and the best treatment is non-interference.

When scanty and irregular, with no pain and an undeveloped uterus, general physical development is recommended. Hot hip-baths for a week before the molimen are useful.

When the discharge suddenly stops during a flow, the patient must take a hot bath, go into a warm bed, and take a Dover's powder.

In chronic suppression, the general health should be attended to, and molimina encouraged.

THOMAS recommends the intra-uterine **galvanic pessary** for undeveloped uterus.

TILT gives pills of **aloes** and **myrrh** at bedtime, with hot hip-baths at night, and foot-baths on rising, mustard to the inner aspect of the thighs and breasts, and dry cups to the breasts. On retiring, a linseed meal poultice as hot as can be borne should be applied to the lower part of the abdomen. These measures are to be tried for three days, and again after three weeks. In the interval, **iron** should be given.

Scarcely any one nowadays gives the old emmenagogues, tansy, rue, and savine. Indeed, it is difficult to formulate an indication for their use. If the cessation of the flow be due to chlorosis, the remedy is **iron**.

If it be due to debility from wasting disease, such as phthisis, all efforts to restore the flow are to be avoided; as its cessation is due to the lack of blood to spare.

When a sudden stoppage occurs, due to catching cold while the menstruation is in progress, the following prescription will prove serviceable:—

R. Tinct. aconiti rad.,.....f ʒ ss
Potass. nitratis,.....ʒ j
Syr. zingiberis,.....q. s. ad f ʒ vj

M. S.—A tablespoonful every four hours.

Hot hip and foot baths are also of use. If the cerebral congestion be intense, a saline cathartic will be advisable, and perhaps a few leeches about the anus. **Conium** is exceedingly useful in such cases.

A young girl of twenty-two years had never menstruated. An examination showed that the sexual organs were normal, and the sexual instinct was fully developed. Subacute peritonitis appeared, but subsided under treatment with cold applications. After this, various emmenagogues were used, and a galvanic stem pessary worn for some months, but with no effect whatever. She is now, at the age of twenty-six, enjoying excellent health, but no sign of menstruation has ever appeared.

In regard to the stimulating emmenagogues, savine, rue, tansy, hydropiper and apiol, large quantities of these drugs are taken as abortifacients, by women who have perhaps gone but a few days "over their time." In such cases, it would be well if women knew that these drugs are useless in pregnancy and unnecessary without it.

In all cases of apparently causeless cessation of the menses in young girls, where the health is unimpaired, the golden rule is to keep clear of any interference.

2. DYSMENORRHEA.

QUAIN says that as this disease is often obstinate, the general health should receive attention. During an attack, rest in bed should be enjoined, and hot baths with anodynes employed to relieve the pain. Salines, arsenic, iron and bismuth are of benefit in the intervals.

In the great majority of cases, local treatment is necessary. Displacements must be corrected.

When clots are found in the cervical canal, this channel must be enlarged. This may be done with graduated bougies, dilators, or tents, of sponge or laminaria. If these fail, he recommends Sims' operation to divide the structures of the external and internal os.

HART and BARBOUR give the following when the pain is slight:—

R. Sp. chloroformi,.....
 Sp. ammon. arom.,.....āā f℥ ss
 Liq. ammon. acetat.,.....f℥ jss

M. S.—A teaspoonful in a wineglass of hot water, occasionally.

On no account allow alcohol in any form. Do not give

opium unless driven to it; and then administer it yourself, but never give a prescription.

THOMAS recommends **apiol**, one capsule (containing four minims) night and morning. Tincture of **cannabis Indica**, gtt. xxv, every four hours, will relieve the pain. Where the spasmodic element exists, he gives a suppository containing one-fourth of a grain of ext. belladonna, every eight hours.

In membranous dysmenorrhea he recommends as an enema:—

R Tinct. asafoetidæ,.....f℥ iij
 Tinct. belladonnæ,.....gtt. xx
 Tinct. opii,.....gtt. x
 Aquæ tepidæ,.....f℥ iijss

M. S.—For one injection.

Instead of this, he gives the following by the mouth:—

R Chloral hydrat.,.....
 Potas. bromid.,.....3 ij
 Morphine sulphat.,.....gr. jss
 Syr. aurant. cort.,.....f℥ iij

M. S.—A dessertspoonful in a wineglassful of water every four hours.

In ovarian dysmenorrhea he prefers the **bromides**, in full doses, commencing their use a week before the menstrual period. Five grains of **iodoform**, by suppository, gives great relief.

LAWSON TAIT thinks that **iron** has a specific effect on the sexual organs. He gives it during the intermenstrual periods, in small doses of the tincture (gtt. j to v), and increases suddenly to fifteen drops two days before the expected flow. Hot hip-baths, leeches to the perineum, and blisters to the sacrum are useful adjuvants. **Marriage** is the most efficient remedy. The most powerful aid is mechanical irritation by Simpson's galvanic pessary. This should be used in cases which resist simpler measures.

ARAN recommends **opium** applied locally to the cervix uteri.

DESPRÉS recommends vaginal injections of warm water, 95° to 104°.

DAVIS uses the following in cases where the pain is severe and the flow scanty.

R Tinct. cimicifugæ,..... f 3 iij
 Tinct. stramonii,.....
 Vin. colchici rad.,.....āā f 3 ss

M. S.—A teaspoonful at each meal time, in water.

For ovarian cases he recommends:

R Ammoniā muriat.,.....3 iij
 Tinct. stramonii,.....f 3 ss
 Tinct. cimicifugæ,.....f 3 jss
 Syr. glycyrrhizæ,.....f 3 ij

M. S.—f 3 three times a day.

MARY PUTNAM JACOBI found great benefit from the use of **nitrite of amyl**, with belladonna, began before menstruation commences.

ANSTIE spoke highly of **belladonna** in neuralgic cases.

PHILLIPS recommends **coccus Indicus** for thin, nervous females, with scanty discharge, preceded by griping pains.

ATKINSON recommends **ergot** in the congestive forms, in doses of thirty minims of the fluid extract every half hour.

JENKS stated that he had found viburnum prunifolium beneficial in all forms of dysmenorrhea where the flow is profuse.

MATTHEWS DUNCAN recommended dilating with graduated metallic sounds; beginning with one which can easily be passed up to the fundus, leaving it there for a few minutes and on the next day inserting a size larger.

This approximates to the method of gradual dilation for the cure of stricture of the urethra.

GOODELL introduces a small dilator, and expands it. This is then removed and a larger instrument introduced, which is expanded to the full extent. The operation is done under ether. By this means the fibres of the uterus are paralyzed by over-distention. When this has been done, several days elapse before the capability for spasmodic contraction returns; and in a number of cases no such return takes place. This procedure is similar to that employed in spasm of the sphincter ani, and in our opinion is

more in harmony with the pathology of dysmenorrhea than the method employed by DUNCAN. Throughout America the use of the dilator has superseded SIMS' operation, which is now but rarely performed. In one case which had resisted the entire group of antispasmodics, including morphine hypodermically up to two grains at one injection, a single thorough dilatation, performed two days before the expected paroxysm, not only prevented the pain at that period, but for years afterwards menstruation was comparatively painless.

In another case, where membranous dysmenorrhea had existed from marriage, the following plan proved successful: Two days before the expected paroxysm the patient was sent to bed, the bowels emptied by a bottle of citrate of magnesia, and forty grains of **bromide of potassium** with five minims of fluid extract of **gelsemium** given every four hours. The menstruation was painless, for the first time in seven years of married life, and when the next month passed around the lady found herself pregnant.

The fluid extract of **gossypium** is a valuable remedy in cases where the menstrual flow is scanty.

3. MENORRHAGIA.

BARNES considers it of the first importance to maintain a patulous condition of the cervical canal, and the removal of all clots and shreds of membrane. He introduces liquid astringents into the cavity of the uterus. In passive hemorrhage the vascular tension must be moderated by the use of sedatives. Ice should be used early, in the vagina. The pelvis should be elevated above the rest of the body. Saline purgatives are useful.

Internally, he gives **turpentine** in capsules, ergot, etc. When these fail he uses styptics locally. In the after treatment iron only adds fuel to the fire. He advises **salines**, especially the freshly prepared acetate of ammonia. To this he adds opium, digitalis or aconite.

THOMAS introduces a sponge tent into the uterus, and fills the vagina with a tampon.

GILT speaks highly of the **bromides**.

HEWITT has an equally good opinion of **matico**, while BYFORD prefers **ergot**.

PANAS recommends plugging the womb with cotton steeped in perchloride of iron solution, diluted one-half to prevent a corrosive action. He then introduces a vaginal tampon of cotton to protect the vagina.

The use of **ergot** requires a good deal of care. We have found this drug to cause a diminution of the flux, without entirely stopping it. If the dose be then increased, the improvement first gained is apt to be lost, and the hemorrhage increased.

We agree with BARNES as to the danger of giving **iron**. We have known hemorrhage following a miscarriage to continue for seven months while the patient was taking iron, and then cease within a week after the medicine was discontinued.

Sulphuric and gallic acids are not very efficient remedies. Cannabis Indica is uncertain. The best systemic remedy is **digitalis**. It may be given in the dose of thirty drops of the tincture, every four hours. The hips should always be elevated, and the patient should use only cold, acidulated drinks.

Too much time should not be lost in general treatment; but if the hemorrhage be profuse or persistent, recourse should be had to local measures. The condition of the uterus should be investigated, and any affection found should be treated. The best astringent for application to the uterine cavity is **chromic acid**. This may be used in strength sufficient to check the flux—twenty grains to two drachms in an ounce of distilled water. The application should be made by means of a probe wrapped in absorbent cotton, and saturated with the solution. The os must be patulous before this is applied; and this may require the previous use of a dilator. The vagina must be protected from the acid.

MUMPS.

MUIRHEAD considers it prudent to confine the patient to his bed for the first few days. The bowels should be kept in proper order by means of simple saline laxatives. Ice, and acid drinks

are grateful. At bedtime a dose of chloral may be given, one grain for each year of the child's age.

If the pain be severe, belladonna liniment may be applied locally. If there be the slightest tendency to suppuration, poultices must be at once applied, and the gland opened as soon as fluctuation is discovered. Leeches are useless. The same measures may be used in metastasis to the testicles or ovaries. Tepid sponging and warm baths are of use. Sometimes stimulants are required.

The debility remaining after the disease has subsided may be considerable, and necessitates the use of iron and cod liver oil for some time.

RINGER speaks favorably of **leeches**, to relieve pain, especially in metastatic cases. The jaw or testicle affected should be kept at rest and supported. Sponging with tepid water is grateful.

The diet should be mild, nourishing, and such as requires little chewing.

MUSHROOM POISONING.

STEVENSON recommends a prompt emetic, followed by a dose of castor and olive oils. **Atropine** is a direct antidote to muscarine, and should be given in small doses. **Digitalis** has the same antidotal effect, in a lesser degree. If the latter be used, we may avail ourselves of the use of opiates, to restrain the exhausting diarrhea.

VON BOECK makes a distinction between poisoning by decayed mushrooms which are otherwise edible, and the effects of those fungi which contain a specific poisonous principle. In the former case, the treatment is that of cholera morbus.

When the muscarine-bearing fungi have been eaten, he advises an **emetic** of tartar emetic and ipecacuanha. Castor oil with a drop of croton oil will prove most effectual.

Tannin is partly a chemical antidote but cannot be trusted implicitly. **Atropine** is exactly an antidote, and should be given in small doses.

MYALGIA.

GARROD recommends **cupping** for the acute forms such as lumbago. This gives only temporary relief, and is not essential. Hot fomentations with opium are valuable. For chronic forms he uses **belladonna** liniment with oil of mustard. Occasionally blisters, turpentine or anodynes may be substituted for these applications. Internally he gives acetate of ammonia and bicarbonate or **iodide of potassium**. Quinine should soon be added. For chronic cases **guaiacum** heads the list, followed by sassafras, mezereon, the resins and the balsams. Small doses of **sulphur** are often useful, arsenic is suited to obstinate cases, and after the pain has subsided, friction and electricity lessen the soreness and restore tone to the muscles.

SEXATOR makes use of hot drinks, diaphoretics and **vapor baths**. Other remedies are given as indicated by the symptoms.

To prevent the recurrence of the attacks, he advises the usual means by which one is inured to cold. For cephalic myalgia he recommends leeches behind the ears, diaphoresis, and when obstinate, blisters, the continued current, and opiates. The injection of **carbolic acid** under the skin may turn out to be useful.

In torticollis he recommends warmth, rubbing, and gradual extension of the muscle. A speedy cure may be often obtained by a thorough application of the Faradic brush. **Morphine** hypodermically may be indispensable. In intercostal myalgia the same course is recommended. In lumbago the treatment should be of the more vigorous methods already suggested.

ANSTIE says that in most cases all that is required is to put the affected muscles on the stretch and keep them so, to cover the skin with spongiopiline so as to keep up a steam bath, and when the acute symptoms subside, take a couple of vapor baths. When the pain resists this treatment, by far the most efficient remedy is the **muriate of ammonia**, in twenty grain doses, with chloroform liniment locally. A hypodermic of morphine is but rarely necessary. The nutrition must be carefully maintained, and **cod-liver oil** is often needed. In the rare cases where these remedies fail, **acupuncture** promises exceedingly well.

We would suggest that the **galvanic** needle be substituted in making this application. We have used muriate of ammonia in all forms of this painful affection with such good results that we recommend it strongly. It should be given in the dose recommended by ANSTIE, a scruple every six hours until congestion of the Schneiderian membrane is produced.

MYELITIS; ACUTE

ERB recommends diaphoretic measures, when the disease is due to cold. When there has been excessive fatigue, absolute rest and a warm bath may check the inflammation. Suppressed secretions should be excited to return. When myelitis occurs in a syphilitic case, an energetic mercurial or **iodide** course should at once be instituted.

When patients come to us with the disease fully developed, the treatment will vary with the cases.

In those that are severe an energetic antiphlogistic treatment is indicated. Leeches, cups, ice-bags, cold spinal compresses, and mercurial inunctions, are the measures recommended. He also gives **calomel** in small doses, and later, iodide of potassium. BROWN-SÉQUARD employs **ergot and belladonna**; and these remedies deserve a trial. In most cases, purgatives and diuretics are better suited. **Counter-irritation**, when properly applied, does good, and no harm. The actual cautery or blisters should be used, according to the severity of the case. They should not be applied to anesthetic regions, or points subject to pressure. He (ERB) recommends, particularly in ascending central myelitis, that two bold streaks be drawn with the hot iron, or points of cauterization on both sides of the spine, repeated every day or two. The more robust the individual, the more energetic the treatment should be. Careful attention should be paid to the feeding and nursing. Absolute rest in bed should be enjoined, and the patient should not lie exclusively on the back. (BROWN-SÉQUARD recommended an exclusively abdominal decubitus.)

Easily digested but nourishing food; no spirits, tea or coffee; absolute mental quiet; and attention to the skin, comprise his further suggestions. If we tide over the first few weeks, the

case may safely be left to nature, aided by proper nursing. Then the time comes for **quinine**, iron, good food, wine, cod-liver oil, fresh air, etc., mild **hydrotherapy**, and especially for **galvanism**.

Specific remedies, such as silver, gold, iodides, and strychnine may be cautiously tried. If the patient be improving, he may practice light gymnastics. Finally convalescence may be hastened by mountain or sea air, cold-water treatment, or sea-baths.

The symptoms may call for the treatment of cystitis, pains, muscular twitching and contracture or insomnia. Against asphyxia and cardiac paralysis we are powerless. Anesthesia, paralysis and atrophy are best treated by **electricity**.

SPITZKA says he has obtained good results from derivation to the feet, in relapses brought on by chilling the skin; and in general he prefers derivatives to the cauterization or local bleeding over the spine. As cold to the feet, but not cold to the back, has been shown to cause myelitis, it is reasonable that remedies to the feet will be more effectual than those applied to the back.

Rest is imperative. The earlier the patient goes to his bed, and the more thoroughly motionless he keeps, the better will be the result. In convalescence, exercise should stop short of fatigue.

Whenever bed-sores are apprehended, the patient should be put upon a water-bed; the rubber being covered with a woollen blanket.

The **warm bath** is the most useful measure in acute myelitis. In cases due to exposure, it cannot be applied too soon. The temperature should not at first be higher than 88°, nor the duration more than seven minutes. This can be lengthened to half an hour. It should be repeated daily, or oftener if agreeable.

Retention of urine, if complete, calls for continuous catheterization. The catheter is to be disinfected, and at the slightest indication of cystitis, the bladder should be irrigated with a solution of corrosive sublimate, one part to 2000.

Both the galvanic and faradic currents should be used early, and continued throughout the disease; **galvanism** being preferred for atrophy, and **faradism** for anesthetic conditions.

When the bladder or rectum become paralytic, galvanism should be applied by means of suitable electrodes.

ROSENTHAL relies on the antiphlogistics and purgatives. He disapproves of counter-irritants, and does not use electricity until inflammatory symptoms have disappeared.

BASTIAN is skeptical in regard to the power of influencing the course of this disease much by drugs. Local bloodletting may be of some use when there is local tenderness. **Ice-bags** to the spine are preferable to counter-irritants. Besides this, he limits his recommendations to careful nursing, liquid food and a little stimulant.

MYXEDEMA.

M. ALLEN STARR says that the treatment is only palliative. Simple nutritious diet, especially milk, with iron and quinine, have been found useful. In a very warm climate, the disease has been stationary for years. **Jaborandi** has been used with some success. Nitro-glycerine, gr. $\frac{1}{100}$, has also been found beneficial. For paresthesia and anesthesia of the early stages, the faradic brush has been applied, and faradisation for the weakness of the muscles, with benefit, but no curative effect. For the pain, he recommends morphine.

ORD found some benefit in the use of **vapor baths**. In other cases, the symptoms almost disappeared under the use of **jaborandi**, ten to sixty minims of the fluid extract, four times a day.

ANDREW CLARK regards the disease as fairly curable by careful diet, iron, arsenic, baths and assiduous frictions.

NEURALGIA.

ANSTIE recommended that neuralgics should consume one-third more food than healthy persons. The fats should form a goodly part of the diet. Syphilis, malaria, and other cachexiæ should receive their appropriate treatment.

Quinine he found unreliable, except in ophthalmic neuralgia.

The utility of **phosphorus** is not extensive or reliable. It is most useful where anesthesia is a prominent symptom. The preparations of **zinc**, he found useless, after a fair trial.

Strychnine was one of his most highly prized weapons. In internal neuralgias he gave five to ten minims of tincture of nuxvomica three times a day. For the superficial varieties he preferred strychnine, in doses of one-fortieth of a grain, three times a day, with ten minims of tincture of iron. This is a powerful remedy to prevent the recurrence of the attacks when once broken by other means.

He considered the action of **tincture of iron** as peculiarly beneficial, apart from its effect upon the blood. He gives it in doses of thirty to forty minims.

Arsenic is often useful, especially in anemic cases. Its peculiar value is in angina pectoris. He gave Fowler's solution, in doses of three minims, gradually increased to ten.

To relieve the paroxysm, he injected **morphine**, into the painful spots by preference, using small doses; one-sixth to one-twelfth of a grain.

Atropine in doses of $\frac{1}{120}$ to $\frac{1}{30}$ of a grain, he found especially useful in dysmenorrheal neuralgia, and in approaching iritis or glaucoma.

For migraine and clavus he gave **chloral** in doses of twenty to thirty grains, with a hot mustard foot-bath. **Cannabis Indica** resembles chloral in its effects, but does not equal it. One-fourth to one-half a grain of a good extract may be given, and repeated in two hours; especially in young subjects.

Muriate of ammonia is sometimes useful in the milder neuralgias, if given in twenty-grain doses.

Bromide of potassium is suited to neuralgia due to neglect of the sexual functions, in fairly vigorous persons. At least ninety grains a day will be necessary.

The assertion of VALLEIX, that **blisters** are the best of all remedies, is not far from the truth. They should be applied as nearly as possible over the intervertebral foramen whence the painful nerve issues. They are particularly useful in herpes zoster, trigeminal tic, and in the desperate epileptic tic of old age. In sciatica several successive blisters should be applied over the sciatic notch. This is an essential in the treatment of sciatica of middle age. The use of blisters, with hypodermics of morphine and atropine, is an exceedingly efficient combination. In milder forms, sinapisms or chloroform liniment may be substituted.

The only use which can be made of **cold** is in the treatment of neuralgia of the testicle. Better than this is the use of **aconite** or **veratrine** locally. The latter is useful in migraine of nursing and chlorotic women. He did not favor operative measures for the relief of neuralgia, as he referred the disease to a centric origin.

He considered the **galvanic current** the only form of electricity which is useful in neuralgia, but the value of this he rated exceedingly high. He applied one pole to the nape of the neck and the other to the painful surface, but considered it of little importance in which direction the current passes. He repeated the application at least once every day. When points douloureux had developed, he applied the positive pole to the painful spots, and the negative pole to the spine opposite to the point of origin of the nerve. The current should never be strong enough to cause the least pain. **HELENBURG** considered sciatica the most readily curable of the neuralgias by electricity. This requires a more powerful current than other neuralgias. In treating neuralgias of the head with electricity, it is necessary to stop whenever the slightest giddiness is felt.

Another class of remedies is intended to exclude the air from the affected part. The best of these is flexile **collodion**, which he recommends for herpetic and erysipelatous neuralgias.

He recommends as prophylactics, the avoidance of all known exciting causes of the attacks, such as cold, overwork, worry, loss of rest or of meals, and the use of all known means of keeping the body in the highest possible state of health.

J. ASHBURTON THOMPSON recommends **phosphorus** in the highest terms. He gives it in the following form:

R Phosphori,.....gr. j
Alcohol absolut,.....f3 vj

Dissolve with heat, and add:

R Glycerini,.....f3 iss
Alcohol,.....f3 ij
Tinct. ol. menth. pip.,.....℥ v

M. S.—One teaspoonful represents one-twentieth of a grain of phosphorus.

PUTNAM mentions the subcutaneous injection of water, chloroform, ether, **osmic acid**, and nitrate of silver. These are sometimes successful, and sometimes dangerous. Massage, mesmeric

manipulations, vibrations from a **tuning-fork**, etc., may give relief. For migraine he prefers cannabis Indica.

We have long since found the practical value of ANSTIE's recommendations, which leave but little to be added on the subject.

To relieve the attacks, we have found no remedy equal to the **constant current** from a four to six cell zinc-carbon battery, applied as ANSTIE suggests, whenever the pain recurs. We have repeated the application over twenty times in a single day before an obstinate attack was finally conquered. But the next paroxysm gave way more readily, as did each succeeding one. After much experience in the treatment of the opium habit, we believe that the use of this drug in the treatment of neuralgia should be dropped, the danger out-weighing the benefits derived. The same may be said concerning the use of alcohol. A very useful combination to break up a severe attack is the following:

R Phosphori,.....gr. j
Strychninæ sulph.,.....gr. ij
Quininæ sulph.,3 jss

M. ft. mas. et in pil. no. xl div. S.—One pill an hour before each meal.

After the force of an attack has been broken by this combination, milder remedies may be used to complete the cure.

To prevent the recurrence of the attacks, no remedy equals **strychnine**, given in doses of one-fortieth of a grain, three times a day. It should be continued for months.

For the paroxysm of angina pectoris, the inhalation of **nitrite of amyl** gives instant relief. Nitro-glycerine has recently been shown to possess great value in this affection, when given in doses of one to five-hundredths of a grain, thrice daily. Arsenic, given continuously for a long period, fully deserves ANSTIE's approbation. **Guarana**, coffee, avena and valerianate of ammonia, are suited to the milder forms of the disease.

DEBOVE found the **chloride of methyl** sprayed on the part effective in sciatica.

ANSTIE seems to have overlooked the fact that neuralgia is apt to affect plethoric persons, and in them his system of super-feeding is unsuitable. The **bromide of potassium** is specially useful in such cases, given in forty-grain doses every hour until relief is experienced.

OBESITY.

IMMERMANN starts out with a well-considered caution against overdoing the reduction of fat.

He recommends the adoption of a prophylactic regimen by those in whom the tendency to corpulence is hereditary, in women at the change of life, in the young who are well padded with fat, in phlegmatic persons, in sucklings who have been artificially fed on improper food, and in those who eat and drink too much. The first rule is to avoid over-feeding. Starvation induces oligocythemia, which favors the formation of fatty tissues. The diet must only be restricted to the normal limits. It is best to restrict the number of dishes; as patients will eat more if they have a variety to tempt the appetite.

The amount of fat should be limited; the hydrocarbons, sugar and starch, are scarcely less objectionable, while the glutens are fat-forming to a much smaller degree.

The nitrogenous foods are necessary to keep up the nutrition of the body, but an excess of these elements will result in the production of fat.

But the supply of glutens, hydrocarbons and even fats must never be so curtailed as to materially lessen the strength; nor must the supply of albumen be so great as to disorder the digestion, and produce lithiasis.

The articles most permissible are: meat broths, beef, veal, lean ham, venison, hare, partridge, grouse, chicken, pigeon, turkey, pike, trout (not fried), oysters and snails.

All sorts of green vegetables are permissible, such as asparagus, cauliflower, green peas, beans, spinach, cabbage, and acid fruits, raw or stewed.

The following should be taken in only small quantities; bread, biscuits, milk, eggs, potatoes, carrots and vegetables of the same class, rice, buckwheat, corn and sweet soups, sugar, mutton, beef-steaks [fried?], veal cutlets, carp, salad with oil, and wine-jellies.

Articles which should be only used exceptionally, and in very small quantities; butter, cream, fats, sauces, pork in all forms (except lean ham), goose, duck, woodcock, snipe, quail, eels, salmon, turbot, crabs, lobsters, frogs, stuffing of birds, potato and

meat salads, patties, sweet pastry, confectionery, creams, ices, sweet grapes, raisins, dates, preserved and candied fruits, and nuts.

Authorities differ in regard to the use of water; HARVEY and BANTING allowing its unrestricted use, and DANIEL curtailing it, and recommending the use of dry and compact articles of diet.

The treatment by thirst should not be pushed so far as to deprive the patient of appetite, or the evil effects of the hunger-cure will be manifested. Hence, IMMERMANN declares against this method.

Coffee and tea may be permitted in moderation, but chocolate and cocoa are undesirable. Neither malt liquors nor spirits can be allowed, even in small quantities. Claret is the least injurious, and when it is deemed inadvisable to prohibit alcohol entirely, it should be given only in this form, and not until after midday.

He does not believe that the chewing of tobacco, coca or hashish, or the smoking of opium, can have any other influence upon the formation of fat, than what is due to the dyspepsia produced.

He recommends **exercise**, especially in the form of gymnastics. Elderly persons must be warned against any exertion which might cause the rupture of an atheromatous vessel.

The powerful stimulus of the **cold bath** is unfavorable to corpulence. In all anemic forms of obesity in adults, **iron** is indicated.

VOGEL adapted BANTING's system to German usages, as shown in the following dietary:

Breakfast: Coffee, with little or no milk and sugar; and a little butterless toast or biscuit.

For high livers he gives a second breakfast, consisting of:

Two soft-boiled eggs; a little lean ham, one cup of tea, or of light acid wine.

Dinner: one plate of thin meat soup. lean meat, boiled or roasted, green vegetables, a little potato and bread, and café noir.

Supper: meat soup, or tea with cold meat, lean ham, soft-boiled eggs, salad, and a little bread.

IMMERMANN's objection to this schedule is that it does not give

the amount to be used of each article. But this is of little consequence, as in all cases the amount of food must be regulated by the nature of the case, and the manner in which the patient bears the treatment.

The **Brunnen-cure** in Marienbad and Tarasp is simply a starvation-cure, as the purgative waters hasten the food out of the alimentary canal before it has had time to be absorbed. The life at these resorts is favorable to self-denial, because the terrible tales of the evil-results of infraction of the rules frighten the patient into compliance. In plethoric corpulence these "cures" are allowable; but not in anemic cases.

For the latter, the waters of Kissengen are preferable.

The cold-water treatment as a water cure is equally efficient, and preferable to those who fear the weakening influences of the Brunnen-cure.

The inhalation of compressed air is deserving of a trial. Theoretically, it should be efficient.

As to the use of **iodine**, IMMERMAN speaks favorably of it, although not positively.

For the troublesome hyperidrosis, he recommends cold baths, ablutions with vinegar and water (one to three), or sage tea.

For seborrhea he uses alcoholic and ethereal lotions.

For intertrigo, powders of lycopodium, starch, oxide of zinc, etc., may be used.

The occurrence of dropsy and cyanosis calls for iron, digitalis, saline diuretics, and occasional drastics. In some cases of extreme corpulence with cardiac degeneration, with swollen liver and ascites, a combination of digitalis and calomel, one grain and a half each, twice a day, proved very efficacious as a diuretic and drastic.

When corpulent persons are attacked by acute fevers, all modes of treatment which are weakening should be avoided. On the other hand, fever should be energetically attacked with such antipyretics as **quinine**, the salicylates, etc.

PAVY recommends the substitution of gluten biseuits for ordinary bread. Brown bread is better than white.

SCHWENNINGER's celebrated cure of Prince Bismarck was

accomplished by directing numberless little nibblings, of a single article each.

OERTEL'S method consists in restricting the diet, with no fat, very little liquid, and increase of such exercise as tends to strengthen the heart.

So great is the tendency to over-do matters, and do injury by using improper methods, and pushing them too far, that in an editorial in the *Phila. Med. Times*, the writer declares that the worst thing which can happen to a corpulent person is that he will attempt to become thin.

This is certainly an exaggeration. It is not necessary to condemn a remedy, because unwise persons may do harm with it. We have found that the weight may be reduced with perfect ease and safety, to the great comfort of the patient, and without any superhuman effort of will-power being necessary.

We direct our patient to eat what he likes for breakfast, using few dishes, and rising from the table as soon as the appetite is satisfied, but never allowing oneself to eat until a sense of fulness or repletion is felt. (Fat people are apt to eat until they can hold no more with comfort.) No liquid is to be taken in the morning until the breakfast is completed, when a single cup of any hot beverage may be allowed. The food will be thoroughly masticated if the patient be not allowed to moisten it with anything but saliva. During the forenoon no liquids should be taken; but if thirst be urgent, an apple, pear, peach, orange or similar fruit may be eaten; or a little coca or tea-leaves may be chewed. At dinner the same rules are to be observed as at breakfast; the appetite being satisfied, but not cloyed by repletion, and the single cup of drink being taken just before rising from the table. During the afternoon, the deprivation of water will be felt more severely, but it must be absolute. Small pellets of ice or a little juicy fruit may be used if the thirst be urgent.

At supper the same routine must be observed as at the other meals; and nothing may be eaten or drank during the subsequent evening.

A full dose of malt-extract, without hops or any other medication, is to be taken at the beginning of each meal.

In persons who are strong and plethoric, a **Turkish bath** may be advised once a week. In all cases a cold shower-bath should be taken each morning on rising, and followed by brisk rubbing with a coarse towel. The amount and kind of exercise must be regulated by the case. In anemic and elderly persons, preference is to be given to passive motion, massage in particular. Confectionery and such articles as crackers must not be eaten between meals.

The thirst is very trying for a single day, the second day it is bearable, and in a week it is forgotten; and in many cases the patient will cease to avail himself of the cup allowed after each meal.

Once having mastered this method, the patient can regulate his weight with little difficulty; making the regimen stricter or relaxing as may be indicated by his condition.

OPIUM POISONING.

STEVENSON advises that the stomach be evacuated by the stomach pump or by emetics. Warm **mustard** water with ammonia is the best emetic.

The patient must be kept awake by walking about, alternate hot and cold applications to the chest, slapping the feet with a wet towel, and the use of faradisation. In the last resort, artificial respiration must be instituted.

Tannin renders the alkaloids of opium insoluble, and should be given freely, especially in the form of tea and coffee. **Caffein** is a powerful anti-narcotic. **Atropine** is serviceable as a direct antidote to morphine, and should be given hypodermically in the dose of gr. $\frac{1}{4}$. Alcohol should be freely given.

Flagellations are very useful, and douches of cold water. It must not be forgotten that atropine does not antagonize the hypnotic effects of morphine, but prolongs and deepens the sleep. Hence, if the respirations be sufficiently frequent and deep, the patient may be allowed to sleep.

The injunction to wash out the stomach is of the utmost importance; as a large amount of the poison may remain in the stomach unabsorbed.

PARALYSIS.

1. AGITANS.

BRISTOWE speaks of the importance of attending to the hygiene, and promoting the patient's health by tonics, if needed. Specific treatment has proved of little service. Iron, strychnine and hyoscyamus have found most favor. The systematic use of baths has occasionally proved of temporary benefit. The galvanic current sometimes seems serviceable.

SINKLER doubts if the cases reported as cured were really instances of this disease. Hyoscyamus and conium have given temporary relief.

TROUSSEAU recommended **strychnine**, but CHARCOT declares that it aggravates the symptoms. HAMMOND uses **galvanism**, in connection with strychnine or phosphorus. SINKLER has seen decided benefit obtained from the hypodermic use of **arsenic**; and in one case the patient was benefited for a long time by the use of strychnine, iron and quinine, with the application of static electricity.

EULENBURG says that the best that can be hoped is that the disease shall remain a long time stationary, or that troublesome symptoms shall be mitigated. Yet such a result can but rarely be attained. Some reports of cures have appeared. ELLIOTSON obtained a cure by the use of **carbonate of iron**, BROWN-SEQUARD by **chloride of barium**, REYNOLDS by **Pulvermacher's chain**, REMAK by the **constant current**, JONES by **hyoscyamus**, VILLEMIX by **bromide of potassium**, and BETZ by **warm baths**.

EULENBURG considers that the diagnosis in these cases is doubtful, the duration of the improvement is not assured, and at most only a temporary disappearance of the tremor is proven. He has obtained no benefit from hyoscyamin or the constant current. The warm bath does harm. LEBERT thinks that he checked the disease once by sea-bathing.

CHARCOT found no benefit in the use of ergotin and belladonna. To this list of therapeutic failures EULENBURG adds morphine,

curare, arsenic, chloral, physostigma, nitrate of silver and bromide of potassium. Of these, **arsenic** produced the most beneficial effect.

Although our own experience is in harmony with those whom we have quoted, we cannot accept the reasoning which calls the diagnosis in question whenever a cure is reported. It has not been long since the same opinion was prevalent in regard to phthisis pulmonalis, and lay, like an impassable barrier, across the path of the enterprising therapist.

As in the case of multiple spinal sclerosis, there must be a disease process which precedes the development of connective-tissue nodules, which are after all but the burnt-out ashes of the former fire. With additional skill in the *early* diagnosis of these affections, an advance in their treatment should ensue.

2. DIPHTHERITIC.

CORMACK says that preparations of **iron** may be used with advantage, such as the liquor ferri perchloridi, in doses of from five to thirty minims in water twice or thrice a day. The carbonate of iron pill, in doses of from three to ten grains twice or thrice a day, immediately before or with meals, often answers remarkably well. Bitter effervescing iron-draughts suit some patients.

When amendment is slow or absent under the use of ordinary doses of iron, though the anemic condition of the patient seems strongly to proclaim the necessity of this medicine being given, its use must not be hastily abandoned, but it should be administered in very small quantity, and largely diluted. Should we still be disappointed with the result, it will be well to try iron in combination with iodine or with **arsenic** in suitable forms.

The extract of **nux vomica**, in small doses taken daily with some ordinary combination of laxatives in pills, should constitute part of the latter treatment in nearly every case.

In addition to the general treatment, the paralysis of diphtheria frequently calls for other measures of a special character.

Persistent and carefully regulated local stimulation may be required to restore impaired innervation, and to secure an adequate supply of arterial blood to the wasting muscles. There are no other means so likely to arrest and prevent degeneration and

atrophy of the muscles—morbid changes, which, if unchecked, lead inevitably to the permanence and incurability of the paralysis. Local stimulation may be accomplished by **blisters**, liniments, pastes, or shampooing. One or other of these means may be employed either separately, or in conjunction with some of the others. The occasional application of blisters is most useful; but care must be taken not to vesicate too large a continuous surface, so as to interrupt the use of systematic gentler stimulation by liniments, pastes, and **shampooing**. Care must also be taken not to make the skin too tender to admit of the muscles being exercised from time to time without pain. Lubrication with liniments combining anodyne with stimulating properties is particularly suitable, in conjunction with shampooing, and the galvanic excitement of contraction of the paralysed muscles. A good application of this description is composed of one part of tincture of cantharides, one part of tincture of opium, and six parts of compound camphor liniment. A good stimulating paste is composed of six drachms of powdered ginger, and two drachms of English mustard, thoroughly rubbed up with just a sufficient quantity of lard to make a paste of suitable consistence. Circular bands of linen, an inch in breadth, smeared with this stimulating paste, are applied at intervals of five or six inches to the whole length of a limb, care being taken to change the position of the bands once, twice, or oftener, in the twenty-four hours, so that, whilst the surface is kept glowing with warmth by the paste, its topical action on the skin is not allowed to exceed the proper limit. When the warm tingling sensations caused by the stimulating bands induce restlessness and prevent sleep, the bands must be removed for eight or ten hours at a time. In paralysis of the respiratory muscles, large sinapisms applied to the chest are of much use. In cardiac paralysis, DUCHEUXNE has recommended **faradisation**, of the precordial region. Galvanic excitement of contraction in the paralysed muscles of the limbs is often decidedly useful; but it is a measure which requires to be employed with moderation, and at intervals of about twenty-four hours. If resorted to too early, or too freely, it exhausts the returning power of the affected muscles.

When the paralytic affections become general, or the

improvement is imperceptible or very slow, sea-air, sea-baths, and hydrotherapeutics deserve attention. In obstinate and protracted cases—particularly in strumous subjects—they often prove of much advantage when employed together with, or apart from, other measures.

Diphtheritic paralysis usually passes off in a short time. Faradisation of the affected muscles has appeared to hasten the return of power.

Attention to the general health is always necessary. The persistent use of **strychnine** and **iron**, and of massage in obstinate cases, offers the best chance of success. To diminish the tendency to paralysis of the heart, **digitalis** should be given in the declining stages and during the early convalescence of diphtheria. [C. F. T.]

3. PARAPLEGIA. (See Spinal Diseases.)

4. HEMIPLEGIA.

When an apoplectic stroke has occurred, the paralysis resulting is due to several conditions. Some of the fibres of the central nervous organ are ruptured, broken and destroyed. It is not probable that repair often occurs in such cases. Beyond the injured section, there is a portion of the nervous tissue whose functions are inhibited by the pressure of the exudation; then comes a zone of hyperemic infiltration, and lastly an oedematous region. In all these the conducting power of the nerve-fibres is simply suspended, and may be restored by time, aided by suitable treatment. There is little doubt but that the absorption of the clot, and of the products of inflammation, may be hastened by the use of **mercury** and **iodine**. We prefer the mercurial pill, given in doses insufficient to cause salivation, but persistently, for a long period. If for any reason it be deemed inadvisable to use this active agent, we may substitute the iodide of potassium or sodium, in full doses. These remedies are much superior in their effects to any of the cathartic, diaphoretic or diuretic medicaments. The absorbents are also less objectionable on account of the effect on the general health, than the evacuants. Such tonics as are deemed advisable, may be used at the same time.

But it does not follow that when the inhibitory pressure is removed, the affected nerves will resume their functions. To excite the renewal of action in such cases we have two remedies; the **galvanic current**, and **strychnine**. Either or both these agents may be employed as indicated in each case. Strychnine should be given in doses of one-fortieth of a grain, gradually increased until slight tetanic symptoms are manifested. This treatment naturally comes after that of the absorbents. **Faradisation** is of great value in keeping up the nutrition of the paralyzed muscles until the functions of the affected nerves are restored. Without this agent, fatty degeneration would soon begin in the muscular tissue, and leave its function permanently impaired.

Another precaution should be taken during the progress of the case. In many cases, when some disability remains after the principal effects of the stroke have passed off, it will be found that there are adhesions about the joints, due to disuse. Massage, and other forms of passive motion, should be instituted about three weeks after the injury has occurred.

Claims have been put forward that a property similar to that of strychnine resides in the common oat, *avena sativa*. We have used Keith's concentrated tincture in a number of cases, and while in some doubt as to its *modus operandi*, we believe the drug has some power. In diphtheritic paralysis it has proved useless; but in several cases of hemiplegia its use proved beneficial. It failed also in a case of syphilitic hemiplegia. Its greatest utility has been shown in paralysis of sensation; especially when the latter has existed long after the original injury.

From the above exposition it will be manifest why paralysis will disappear *almost* completely in time, but not entirely; as there will always be some disability remaining.

PERICARDIAL DROPSY.

BALFOUR says that when the fluid is so suddenly effused that death is threatened by suppression of the heart's action, paracentesis is necessary. Otherwise the treatment depends upon the primary disease.

BAUER recommends cardiac tonics. He says that puncture of the pericardium is unattended with much risk, if care be taken to exclude air.

PERINEPHRITIS.

T. GRAINGER STEWART favors the use of blisters in the earlier stages; as well as the internal use of iodide of potassium, and iodine externally, to prevent suppuration.

When suppuration has taken place the abscess may be evacuated by the aspirator or by incision. The latter is preferable.

F. T. ROBERTS advises leeches or cups when acute inflammatory symptoms are present. Ice-bags may be employed very early in the disease, but later it seems better to use hot applications. The patient should be kept quiet in bed, on low diet. No medicine has any direct influence on the disease, but the bowels should be freely opened by means of enemata. He prefers aspiration to a free opening, as the latter may be still used if the former fail. Besides the above measures, we must treat the pain, debility and other symptoms, as they arise.

PERITONITIS.

F. T. ROBERTS directs attention first to the importance of removing the cause, whenever it is possible.

The bed-clothes may be raised on a cradle. Nothing should be given as food except small bits of ice, small quantities of iced drinks, iced milk or beef-tea, if they can be retained. If the stomach be irritable, we may have recourse to small nutrient enemata of digested foods.

If blood letting be deemed advisable, from ten to thirty leeches may be applied; but the use of a larger number can do no good, and would probably do harm. This measure is only permissible in the earliest stages of the disease, and in strong and healthy subjects. This writer does not believe in mercury. He considers **opium** the sheet-anchor. From one-half to two grains

may be given every two to four hours, but not if renal disease be present. In children it must be given with care. As to the use of **heat** or **cold**, externally, he consults the inclination of the patient. In the later stages he considers the cold applications injurious.

In some cases where the effusion is considerable it may be removed by a trocar. Local accumulations of pus should be evacuated.

Whenever a tendency to collapse appears, stimulants should be used. Brandy and champagne are the best. Their use should not be postponed too late. They are best given in small quantities and at short intervals. **Quinine** in full doses, ether, musk, camphor, ammonia, and turpentine, are the chief medicines which may be required in bad cases.

Nausea and vomiting call for iced aerated drinks, with hydrocyanic acid and **morphine**. Constipation must not be disturbed; or may require simply an enema. Diarrhea may be checked by enemata containing laudanum. Tympanites may be relieved by a dose of calomel, by turpentine in enema, or by the insertion of a long tube in the rectum. In extreme cases the intestines may be punctured by a fine trocar. These means also relieve the dyspnea, which depends upon the tympanites. Hiccough calls for narcotics, ether, sinapisms, blisters, or the inhalation of chloroform. Much care is required during convalescence; and the absorption of morbid residual products may be hastened by blisters, iodine, baths and other measures.

DAVIS advises local **bleeding** in acute cases, and follows it with the application of warm narcotic fomentations. For the first day he gives one grain of **calomel** and one-third to one-half a grain of **morphine**, every two to four hours, until the patient is free from pain and inclined to sleep. If these powders be given, together with the use of leeches, followed by anodyne fomentations, the first three doses will frequently cause almost entire relief from pain and restlessness. The doses should then be given less frequently, to keep up the effect already produced. In one or two days the pulse will become slower, the temperature fall, the skin will become moist, and the pain and tenderness greatly diminished. The opiate is then to be continued without the calomel, and diuretics given alternately. By the end of the third day, the

patient will be quite comfortable, except for the nausea resulting from the opiates. If diarrhea supervene, the morphine is replaced by an emulsion of turpentine and laudanum. If the bowels be not freely moved, warm water enemata may be administered.

Subsequently, but little treatment is required, excepting rest, and a very mild, unstimulating diet for a few days.

When the case has not been seen at the beginning, the same treatment is instituted except the use of leeches. The thirst should be relieved only by bits of ice, or by spoonfuls of milk and lime water, or of animal broths. If the tympanites increase, the abdomen may be painted with soap liniment and iodine, or turpentine diluted with olive oil may be applied sufficiently to produce a smart degree of irritation. This may be repeated every three hours; light, anodyne fomentations being used in the intervals. It may be necessary to give **morphine** hypodermically, if the stomach be very irritable. The dose must be not too large, especially if the tympanites interfere with respiration, as narcotism is then quickly induced, even by doses which would be safe under ordinary circumstances.

Sometimes decided advantage is obtained from the use of blisters to the abdomen, but in most cases the applications already mentioned are preferable.

When the acute stage passes by and serous effusions remain, it may be desirable to apply a succession of small blisters, and to give internally the **iodide of potassium** with **digitalis**. The same measures are the most suitable when the disease becomes chronic. If the effusion be large, and show little disposition to diminish under treatment, the aspirator may be employed.

If the treatment above indicated fail to arrest the disease, and the pulse become rapid and feeble, the extremities cold and blue, and the abdomen distended, the patient will probably die. Opium must be given cautiously, and some benefit may be derived from the use of ammonia, camphor, caffeine and theine; with **digitalis** as a heart tonic. Tablespoonful doses of gruel, beef-tea, or other animal broths, with warm tea or coffee, constitute the best means of support.

Dr. DAVIS has never seen the slightest beneficial effect from the use of alcohol.

WARDELL approves of **blood-letting** in acute cases of the sthenic form, when it can be performed at the commencement of the malady. The typical indication for venesection is a constricted, hard, sharp and wiry pulse, which becomes softer and fuller as the blood flows. The only reliable guide as to the quantity to be drawn, is the effect produced upon the heart. The patient should be bled in the erect posture. A repetition of the venesection may be needed.

After the first day, when effusion has taken place, blood-letting is more likely to do harm than good. After the lancet he applies twenty to forty leeches to the abdomen. Flannels wrung out of hot water should be applied to encourage the flow of blood. These fomentations should be covered with oiled silk. **Turpentine** applied on spongiopiline is very beneficial. After the patient has been bled enough, he administers **opium**, in doses of two or three grains.

For irritability of the stomach he advises hydrocyanic acid. When the tympanites is very considerable, two drachms of *asafoetida* may be administered by enema. Or, an elastic tube may be passed up the rectum, and allowed to remain.

Constipation should generally be let alone; but if an accumulation form in the colon, an enema of olive oil and turpentine may be given. In the far more numerous cases of the asthenic type, **opium** is the chief reliance. Two or three grains may be given at first, and followed by a grain every two to four hours afterwards. In peritonitis from perforation, opium may be given in the largest doses. Occurring in the course of Bright's disease, the treatment should be directed mainly against the latter affection.

In puerperal peritonitis the time for bleeding to be beneficial is far more limited than in the ordinary form. In children, the same general plan is to be pursued, due regard being paid to the danger of depletion and opium. In strumous cases, cod-liver oil may be prescribed.

ROBERTS disapproves of the use of mercury, but considers **opium** of the utmost importance. Alcohol is needed in many instances, and in low forms of peritonitis, this is the chief remedy on which reliance can be placed. Adynamic symptoms call for **ammonia**, bark, ether or turpentine internally; with abundance

of alcohol and nutritious liquid food, and in extreme cases, the subcutaneous injection of ether.

NIEMEYER says that where retention of feces and ulceration, or strangulated hernia, has caused peritonitis, the causal indication may be met, but in all other cases we cannot fulfil it. He approves of **opium**, giving half a grain to a grain every hour, at first. As to bleeding, he remarks that on examining the bodies of those who have died of peritonitis, whether they had been bled or not, the tissues are found uncommonly bloodless, the heart and arteries almost empty; the result of the excessive exudations. If to this we add the fact which experience shows, that a great loss of blood during labor does not afford protection against epidemic puerperal fever, and that the causes of peritonitis are just as active in weakly persons as in the strong and well-nourished, we may omit other reasons for avoiding venesection.

Calomel and mercurial ointment are superfluous, and in purgative doses, injurious. But as to local blood-letting, its beneficial effects are beyond the reach of doubt; even when the peritonitis is due to perforation. *Cold* is even more efficacious. If the patient can bear it—which is not always the case—we may cover the abdomen with cold compresses, and renew them every ten minutes. Many bear warm poultices better than cold. **Opium** is invaluable in all forms of peritonitis.

An early cyanosis, with excessive dyspnea and symptoms of œdema of the lungs requires **venesection**. This removes the danger to life but temporarily, but no other remedy does even that much. For the tympanites, turpentine and absorbents are useless, and aspiration is no more effective than the introduction of the rectal tube.

The vomiting is most benefited by swallowing small pieces of ice. Even the mildest laxatives should be avoided until the inflammation has subsided; while opium and astringents are alike useless in the diarrhea depending on œdema of the mucous membrane.

In protracted cases, we should give quinine in large doses, wine, and nutritious, but easily digested diet.

DA COSTA uses local bleeding at the outset, followed by cold

or hot applications, as preferred by the patient. In adynamic cases, he substitutes dry cups and hot anodyne fomentations. Following these remedies, he administers **morphine** hypodermically; and **quinine**, five grains every four hours until exudation has occurred.

CLARK gave 472 grains of opium in one day, to a case in his charge. The opium should be guarded by sufficient doses of atropine.

BARTHOLOW recommends leeches, followed by ice-bags to the abdomen; which should be replaced by warm applications when exudation has taken place. **Morphine** with **atropine** should be given hypodermically upon the first manifestation of the disease. Here, also, the use of **quinine** in antipyretic doses is highly beneficial, but this remedy ceases to be useful when there is solid or liquid exudation. This necessitates a change to the supporting and stimulant regimen. Ten grains of the carbonate of ammonia in an ounce of the spirit of the acetate, is a remedy of the highest utility.

TANNER places his patient upon a diet of milk and water, arrow-root, and beef-tea; allowing plenty of iced water, tea, and barley-water. The greatest quiet should be maintained in the sick-room, the air of which should be warm and pure.

He never resorts to antiphlogistics. We have one remedy which is invaluable, and that is **opium**. It should be given in sufficient doses to thoroughly relieve the pain. He believes that by it alone we may often save the patient's life. Sedative fomentations also give great relief. Covering the abdomen with a mixture of four parts of extract of poppies to one part of extract of belladonna, and then fomenting, will prove very serviceable. He says that he does not inflict venesection, blisters, antimony or mercury on the sufferer. Even leeches are unnecessary, provided the fomentation flannels be applied loaded with steam, and changed every fifteen or twenty minutes.

In all instances purgatives do harm; but if the colon be oppressed with fecal matter, the latter should be removed by enemata. Directly great exhaustion sets in, stimulants must be

given; the best being brandy. Essence of beef, cream, raw eggs, quinine, and ammonia are also often invaluable in staying that prostration which, unless properly treated, soon ends in a fatal collapse.

LOOMIS follows the **opium** plan, first instituted by ALONZO CLARK. As soon as the symptoms of peritonitis are unmistakably developed, he gives at one dose from one-half to one grain of morphine. The patient is brought as soon as possible fully under the influence of the drug. Pain and inflammation modify the effects of opium so that unusual doses are requisite. As the patient is brought fully under the influence of the opiate, the body becomes bathed in perspiration. In twenty-four hours an opium rash appears on the neck, accompanied by itching and a disposition to rub the nose. The pupils become contracted, the eyes suffused, the countenance dull, and the disposition to sleep becomes irresistible. The pulse is lessened in force and in frequency, and the respirations fall from sixty per minute even to twelve. In this condition the patient is to be kept, and with the respirations at twelve, he is perfectly safe, and may be allowed to sleep. But if it be found difficult to arouse the patient, the opium must be suspended, until he can be easily awakened. The opium must be given solely by the physician, as no nurse can be trusted to know how much is needful at each dose. If the respirations fall to seven, the patient will be fully narcotized, but will recover if the opium be not continued. The effect upon the pulse is the best indication that the inflammation is coming under our control. Tympanites diminishes at the same time and is a sure indication that the peritonitis is arrested. If it do not depend on the escape of intestinal gases into the peritoneal sac, the inflammation can be controlled within forty-eight hours, if the above method be adopted within the first twelve hours of the disease. The treatment must be continued four or five days longer, to prevent a relapse. The opium may be diminished as it is found that smaller doses are required to produce the desired effect. When convalescence is established wait a week before giving a cathartic, and then give castor oil.

LOOMIS prefers warm applications over the abdomen to cold.

He has withdrawn the gas causing distention, by means of the smallest aspirator needle, without any bad results, and with the production of great relief. In asthenic cases, he combines with the above method the use of stimulants.

It will be seen that while venesection has gone out of use, and the remainder of the antiphlogistic armamentaria is rapidly becoming obsolete, the use of **opium** receives the almost unanimous sanction of the great authorities in all parts of the world.

In sharp and characteristic contrast to this view, LAWSON TAIT treats a threatened peritonitis occurring after an abdominal section, by administering a brisk **saline cathartic**! In Germany the local application of **cold** is universal; in England, hot fomentations are still preferred.

Leeches are still used in local inflammations, such as that of perityphlitis.

PERITONITIS; CHRONIC.

F. T. ROBERTS recommends the **iodides** of potassium and of iron, and says that in some instances diuretics may be useful. He also recommends mercury, but with some reserve. If there be much fluid, advantage may be derived from the use of diaphoretics, such as hot-air, vapor or Turkish baths, or **jaborandi**. Counter-irritation is sometimes of service, especially painting with iodine, rubbing with liniment, and pressure. The latter is decidedly valuable in aiding absorption and in giving support to the abdomen. The abdomen is covered with cotton wool, and a flannel bandage applied firmly.

If the effusion be large, and absorption slow, he resorts to paracentesis; repeated if necessary. Local collections of pus must be treated on general principles.

General treatment is often essential, directed to the condition to which the peritonitis is due. The measures indicated are similar in the main, consisting of good nutritious diet, suitable sanitary conditions, change of air, and the use of cod-liver oil, quinine, iron and other tonics. Wine may often be given with advantage. The organs generally must be attended to, and their functions regulated. Pain, flatulence, constipation, dyspepsia and diarrhea will need attention at times.

DAVIS mentions favorably the combinations of iodide of potassium with digitalis. If the patient suffer much pain or soreness, conium, hyoscyamus or belladonna may be added; and long continued and mild counter-irritants applied to the abdomen.

Temporary exacerbations showing an access of acute inflammation locally, may demand the application of a **blister**, or of some milder remedy. A liniment composed of three parts of soap liniment and one of tincture of iodine, may be applied over the whole abdomen twice a day. When the inflammation is circumscribed, the **oleate of mercury** may be used locally for a limited time.

By this method of treatment the disease will be cured, or else delayed in its progress. When the serous distention seriously embarrasses the other functions, and is not much relieved by the above mentioned measures, the fluid should be removed by aspiration. This should not be repeated oftener than is necessary.

But if the abdomen contain a purulent fluid, the physician must decide whether he will simply endeavor to palliate the symptoms and render his patient as comfortable as possible, or whether he will remove the pus by tapping with a large trocar, wash out the cavity with antiseptic lotions, and establish drainage, as in empyema.

If the patient be worn out with loss of rest, and if he be anxious to obtain relief from the dyspnea, the operation will be justifiable and proper.

(For interesting remarks on the effect of paracentesis and drainage in chronic peritonitis, see the article on Ascites.)

TANNER says that the treatment must consist in attention to the bowels; in allowing a mild but nutritious diet, with plenty of milk or cream, raw eggs and raw meat; and in the employment of blisters or stimulating liniments to the abdomen. He recommends **iodine** internally and externally, especially the iodide of iron; together with cinchona and cod-liver oil.

3. TUBERCULAR PERITONITIS.

MCCALL ANDERSON is almost the only physician of modern times who has had the nerve to claim a cure in a case of tubercular peritonitis. In the case of a child, his treatment consisted at

first in a careful regulation of the diet and of the digestive organs, and in the use of pancreatic emulsion, in doses of one to two drachms, in milk, an hour after the meals. Following this, he gave half a drachm of syrup of iodide of iron three times a day, before meals. After one month he added to the above cod liver oil in doses of a drachm, gradually increased to half an ounce, three times a day.

In other cases the same treatment was instituted, with the addition of the application of iced cloths to the abdomen for half an hour, every two hours, opium in full doses, and quinine until the acute fever subsided. To emphasize his views of the curability of this disease, ANDERSON quotes the following from SIR SPENCER WELLS: "A young lady had an enlargement of the abdomen, which was supposed to be due to an ovarian cyst. An incision was made in the peritoneum, a large quantity of opalescent fluid escaped, and then the whole of the peritoneum was seen to be studded with myriads of tubercles. Some coils of small intestines were floating, but the great mass was bound down with the colon and omentum, all nodulated by tubercle, towards the back and upper part of the abdomen." This patient made a good recovery, and has since married.

I have made use of ANDERSON's method in the only case of this disease which I have met since reading the above. The patient was a young girl, of a tubercular family, who presented symptoms of tubercular peritonitis. The cold cloths were applied to the abdomen, and changed every minute for half an hour. This was repeated every two hours until the temperature subsided to the normal point. In all other respects ANDERSON's advice was strictly followed. The lady recovered. [W. F. W.]

PERITYPHLITIS.

ALLCHIN says that perfect rest in bed is of primary importance; and, since the symptoms are directly relieved by the recumbent position, the imprisonment is readily submitted to. Hot poultices of linseed meal, or fomentations over the cæcum, changed as often as necessary, almost invariably give marked

relief. When an abscess is in process of formation, the hot applications favor its development, and so promote the cure, by affording an opportunity for its being opened. This plan, pursued for a week or ten days, may be sufficient. In chronic cases it may be necessary to continue it for a longer period, even when the tension appears to be lessened, and the pain in the limb decreased. When the acute inflammatory symptoms have subsided, counter-irritation, by blisters or by a solution of iodine applied over the affected part, tends to promote absorption, and remove thickened or condensed tissues.

Attention should be especially directed towards maintaining the general health. The diet should be small in amount, frequently administered, and of the most nutritive quality. Advantage is derived from the administration of the prepared digestive juices of the stomach and of the pancreas, so that a minimum of indigestible food may reach the lower bowel.

Stimulants, carefully administered, are often necessary. Care is required in giving aperients when the bowels are confined. This condition is best relieved by enemata and gentle laxatives, such as confection of senna or castor oil. Constipation is more favorable to the patient than diarrhea, which is often uncontrollable, or obstinately resists the usual treatment of acids and opium, tannin and other astringents, whether given by the mouth or as enemata. It is much easier to relieve the bowels than to arrest their excessive action.

Tonics, such as iron, ammonia, and bark, are of value, and should be given from the outset, since the disease is one that tends to wasting, and it is usually in a somewhat enfeebled condition that the patient first presents himself. When the acute phase has passed, change of air, a sea-voyage, and other aids to convalescence are required.

LOOMIS says that the most important thing, after aspiration has determined the character of the tumor and the presence of pus, is to make an incision into the abscess, cutting cautiously through the abdominal wall at the seat of the swelling. Free drainage must be kept up. Previous to the evidences of suppuration, leeches may be applied over the tumor, followed by warm

poultices. Absolute rest is all-important in the management of these cases.

After opening the abscess, care must be taken to avoid pressure upon that part of the intestine for some time.

The exhaustion resulting from the prolonged suppuration must be combated by iron and the vegetable tonics. The diet throughout should be highly nutritious and digestible. Opium should be employed whenever the least indication of local or general peritonitis appears; and laxatives must not be administered until the reparative processes are well established.

DA COSTA endeavors to allay the inflammation in the first stage by the local use of ice, or of iodine. If suppuration be evident, he applies poultices, evacuates the pus, and administers **opium and quinine**.

NIEMEYER applied **leeches** repeatedly, and followed with warm poultices. The abscess should be opened as soon as there is fluctuation.

BARTHOLOW approves the practice of BUCK, in evacuating the pus by a free opening and establishing drainage; particularly as by this method of operating, foreign bodies have frequently been brought to light and evacuated, which otherwise would not have been discovered.

PERSPIRATION: DISORDERS OF.

1. ANIDROSIS.

PIFFARD says that the perspiration may readily be increased by the use of any of the diaphoretics; the most powerful being **jaborandi**. This may be given in the dose of a drachm of the fluid extract for an adult.

The most agreeable diaphoretic is the Turkish bath.

Some persons suffer from abnormal dryness of the skin, with a tendency to crack in cold weather. This may be remedied by a daily cold shower-bath, followed by vigorous rubbing with a Turkish towel, and the use of lotions on the exposed portions of

the skin. The best applications are those which contain glycerine, oil of roses and bay spirit.

2. BROMIDROSIS.

VAN HARLINGEN speaks of the use of permanganate of potassium, two or three grains to the ounce; and **chloral**, twenty grains to the ounce of water or diluted alcohol.

THIN recommends the use of cork insoles, which have been soaked in a solution of boric acid and dried.

SPARKS says that the treatment consists in extreme cleanliness, repeated washing with tar soap, thorough drying and frequent change of the stockings. The parts should be powdered with oxide of zinc and rice powder (one part to four), and belladonna should be given internally.

HEBRA recommends the following for fetid sweating of the feet:

R Ol. olivæ opt., ʒ xv
Lithargyri, ʒ iij-3vj

Coque: ft. unguentum.

This is to be applied on strips of linen every twelve hours.

PIFFARD says that he knows of no drugs which are capable of directly modifying the secretion of mal-odorous sweat. Any debility or other general constitutional state should be treated. Locally, he uses a preparation composed of freshly prepared **silicic hydrate** and rose water ointment, one part of the former to nine of the latter. This is to be rubbed into the affected parts night and morning, the surface being thoroughly cleansed with soap and water before each application.

To palliate the affection, cleanliness is of the first importance. If this be insufficient, it will be necessary to use a disinfectant, such as thymol or chloral, combined with an astringent and absorbent powder.

WILSON paid great attention to the regulation of the general health. He reported one cure due to the local use of **tannic acid**.

SHOEMAKER speaks favorably of the local use of **oleate of aluminium**.

In the German army the soldiers are compelled by regulation to apply to their feet an ointment composed of **salicylic acid** and suet.

We have found none of the foregoing remedies as satisfactory as the following: We direct our patients to use no soap and but little water on the parts from which the odorous perspiration is derived. Instead of this we have the parts anointed with some inodorous animal oil every night, scraped several times a week, and the remaining oil well rubbed away with a piece of flannel. (The reader of Xenophon's *Anabasis* will remember that among the prizes in the Greek games were *golden flesh-scrapers*.) The stockings should always be of wool, and, as well as the shoes, should be aired every alternate day; that is, should be worn one day and aired the next.

In some cases the substitution of borax for soap, as a cleansing agent, is followed by an immediate improvement. Persons subject to fetor of the feet should always wear shoes of cloth, or some material which will allow of free transpiration.

PIFFARD calls attention to a curious affection which he denominates bromidrosiphobia. Persons imagine that they are malodorous, and have even refused to appear in society on account of offensive emanations arising from their persons, which, however, no one could detect except themselves.

We have met with one such case, in the person of a Texan, an ex-Confederate officer. He seemed much improved when a urethral stricture had been dilated, but left us, still painfully conscious of the bad odor arising from his body.

3. HYPERIDROSIS.

PIFFARD states that **belladonna** will temporarily control any case of local or general hyperidrosis. But no permanent benefit is obtained, even if this condition be kept up for some time. He has found the preparation of **silicic hydrate**, mentioned under the head of bromidrosis, useful also in this affection.

HEBRA recommends the application of equal parts of lead

plaster and linseed oil, to be left upon the part for twelve hours. This is to be repeated for ten days, and then the foot may be rubbed with some astringent powder. In a few days, a yellowish layer of cuticle will peel off from all the affected parts, and a healthy surface will appear. The foot may then be washed, for the first time during the course of treatment. When the affection returns, in a year or more, the same course may be repeated.

SHOEMAKER recommends the **oleate of zinc**, mixed with thymol (one part of the latter to 500), as particularly valuable to those who suffer from increased sweating around the axillæ, genital organs, and palmar and plantar surfaces.

In one case we found all local remedies inefficient, until the patient underwent a course of treatment for his corpulence; which was excessive. When the surplus fat had been disposed of, the use of HEBRA's method proved successful.

PHARYNX; DISEASES OF.

1. ACUTE CATARRH.

RINGER urges the use of tincture of **aconite** root, in drop doses every quarter hour for the first two doses, and afterwards hourly, if the case be seen at the very beginning. The inflammation rarely fails to succumb within one to two days. MUIRHEAD says that the patient should be confined to bed, a brisk purgative given, and bland nourishment allowed, including milk, ice and stimulants if required. Poultices, fomentations or wet compresses may be applied externally. **Steam** may be inhaled, and a warm solution of **morphine** sprayed into the throat every two hours.

When the swelling and redness subside, the astringent gargles may be used, or the throat may be painted with glycerine of tannin or with nitrate of silver. Tonics will then be useful.

MORELL MACKENZIE considers confinement to the house for a few days, restriction to a light diet, and the avoidance of stimulants, the only measures necessary. A wet compress, to the neck, a hot foot bath, and sucking ice expedite the cure. An

opiate taken early will generally abort the attack. The effect is much less if the patient be allowed to sleep after taking the opium.

A **Turkish bath** will frequently cut short the attack. The disappearance of the local affection may be hastened by using a rhatany lozenge every three hours. A few applications of the pigment of chloride of zinc are especially useful for the same purpose.

The disposition to catarrh is best counteracted by the use of cold morning baths, rough towels, and flesh brushes; while hot rooms, late hours and all relaxing habits should be avoided.

SAJOUS applies a four per cent. solution of **cocaine** to the inflamed mucous membrane every two hours. The same agent may also be given in wine or in lozenges.

The next best remedy is **opium**; three drops of the tincture being given every hour for three doses. Two drops of tincture of **belladonna** may be substituted if opium be undesirable. Guaiac is also valuable, particularly in rheumatic cases.

No remedy is nearly so effectual in aborting this disease as the **chlorine** mixture given in the article upon diphtheria, on page 161. A teaspoonful of this may be taken, every hour; and usually three doses will be found sufficient. As a palliative, nothing is so useful and convenient as a lozenge of coca and aconite.

2. CHRONIC CATARRH.

MUIRHEAD says that if the disorder be dependent upon any other affection, then of course the primary disease must be attacked. But in the case of simple chronic pharyngitis it will usually be found that the sufferer is considerably below par in his general health. This indication must be met, and the patient supplied with tonics; his habits of life altered, his business suspended, and much out-of-door exercise enjoined. Good nourishing diet should be ordered. Smoking must either be entirely prohibited, or if this be impossible, it must be much reduced. Locally, the affection is best treated by sprays or swabbing. Gargles seldom reach the parts; but if these are to be used, the best are those of alum, tannin, chlorate of potash, or

bromide of ammonium. This latter is especially valuable in relaxed throats, with elongated uvula, and irritable cough. As sprays, many different remedies are employed, the most valuable being solutions of the following, in distilled water, in the proportions indicated to the ounce:—Nitrate of silver, five to ten grains; tannin, five to fifteen grains; alum, ten to thirty grains; sulphate of zinc, five to ten grains; common salt, ten to thirty grains; or glycerine diluted with water. In swabbing the throat, glycerine of tannin, LUGOL's solution, or the simple tincture of iodine may be used. In some cases mineral waters are prescribed with success.

MORELL MACKENZIE advises avoidance of the exciting causes, and that the patient should reside in a dry and bracing atmosphere. Hepatic congestion or irregularity of the bowels require a morning glass of saline aperient water. If the affection be slight, a gargle of chlorate of potassa should be frequently used. Lozenges of kino and rhatany are very useful.

When the affection is obstinate, the local application of astringents, such as solution of **perchloride of iron**, one part to eight, with tonics internally will sometimes cure. If the uvula be elongated, it should be shortened. If there be any follicular disease of the throat, this must be cured before the uvula is amputated; as patients may not be willing to submit to further treatment after this operation.

WENDT recommends astringent gargles, and pencilling the throat with **nitrate of silver**, thirty grains to the ounce. The general treatment is important.

SAJOUS prefers nitrate of silver as a local application, in the strength of forty grains to the ounce. The application should be preceded by thorough cleansing. Weaker solutions only do harm. It should be applied once daily. Some cases will not bear astringents at all, and in these, he applies vaseline.

For catarrh without hypertrophy, an excellent application is the solution of **hydrastia**; two to four grains to the ounce of distilled water.

If catarrh of the nasal passages co-exist, this must be treated

at the same time, or the pharyngeal affection will constantly re-appear.

3. FOLLICULAR PHARYNGITIS.

MORELL MACKENZIE recommends the **London paste** for the hypertrophic form. This should be applied to each granulation separately, but only two of these should be treated in one day.

The paste is made into a thick cream with water, and applied with a wooden spatula. The throat should at once be rinsed out with cold water.

In the intervals milder remedies may be used, as the pigments of chloride of iron or of zinc. When there is much irritation of the fauces, inhalations of **benzoin** or **hops** are beneficial.

In the exudative form, he scrapes away the white spots with the pharyngeal curette, and applies the solid stick of **nitrate of silver** to each spot.

In the meantime, the general system should receive such treatment as is indicated in each case.

After the local treatment has been completed, the permanency of the cure may be established by change of air, residence at the seaside, or by using the arsenical waters of Mount Dore, the hot sulphur springs at Aix-les-Bains, or the saline waters of Ems.

SAJOUS prefers the **galvano-cautery** to dissipate hypertrophies. In the exudative form the cheesy plugs should first be removed by the use of forceps. Six or seven follicles may be burnt at each sitting. Large superficial veins may be cauterized at the same time.

MUIRHEAD lays stress upon the importance of rest to the affected part. The clergyman must cease his sermonizing, the smoker lay aside his weed. The strength must be kept up by systematic courses of tonics. Locally, he prefers applications of silver, tannin or alum. Boro-glyceride is a valuable local emollient. Gargles are worthless, as they never reach the affected part.

We have used both the London paste and the galvano-cautery in these cases, but prefer to both, the application of iodine and phenol:

R	Tinct. iodi,.....	3 j
	Phenol sodique,.....	3 ij
	Glycerini,.....	3 ij

M.

The strength of this mixture may be increased or diminished according to the sensitiveness of the throat. It may be applied every day to the hypertrophied mucous membrane.

4. ATROPHIC PHARYNGITIS.

SAJOUS recommends the application of a saturated solution of chlorate of potassium, as a gargle, or with an atomizer. A ten grain solution of nitrate of silver should be applied every day, on a pledget of cotton. The mixture of equal parts of **iodine** and glycerine, recommended by FAUVEL, is less efficient.

In addition to the local remedies, **pilocarpine** may be given internally to stimulate the secretory glands. The oleoresin of cubeb, fifteen drops, on sugar, is another meritorious agent. Chloride of ammonium, in three grain tablets, is advantageous to keep the pharynx moist.

PHLEGMASIA DOLENS.

PLAYFAIR considers over-active treatment unadvisable, especially of the antiphlogistic sort, as the disease usually occurs in persons who are in a debilitated condition. The constant application of heat and moisture gives great relief to the pain and tension. The limb may be wrapped in linseed-meal **poultices**. If the weight of the poultices be objectionable, flannel stupes may be substituted. Laudanum or belladonna and chloroform liniment may be sprinkled freely on the poultices. The most absolute rest in bed must be enjoined.

The constitutional treatment must be regulated by the condition of the patient. Milk, beef-tea and light soups may be given in abundance. Debility may make stimulants necessary. The tonics, iron, quinine, the mineral acids, ammonia and chlorate of potassa are apt to be of service.

The use of alkalies and other medicines to hasten the absorption of coagula must be considered as altogether useless. Pain

and sleeplessness may be relieved by Dover's powder, chloral or the subcutaneous injection of **morphine**.

When the acute symptoms have passed by, the limb should be swathed firmly in a flannel bandage. The equable pressure assists the absorption of the coagula. Still later, weak **iodine** ointment may be gently rubbed into the skin. Any manipulation calculated to cause loosening of coagula is to be avoided. Warm douches and the occasional use of electricity are thought to promote absorption.

When the patient is well enough to be moved, she should be sent to the sea-shore. Great caution should be shown in resuming the use of the limb.

AMANN thinks that the *prophylaxis* in this disease is very important. If signs of fever and pain in the limb appear, the patient should remain in bed, receive no visits, and observe a strict diet. Every precaution should be taken to remove all causes of excitement or irritation, moral or physical.

The patient should lie so that the affected leg is more elevated than its thigh. The bowels should be moved by a moderate laxative. Venesection is out of date. A few leeches may be applied near the painful point, in order to reduce the hyperemia.

Of local applications, the most efficient are cloths wrung out of **lead-water**, or ice-water; and, later, inunction of equal parts of **mercurial ointment** and lard. A piece of the latter the size of a bean may be rubbed into the thigh and groin twice daily, until a mercurial impression on the gums is noticed, after which frictions with camphorated oil and alcohol may be substituted. When the fever has disappeared, the swelling may be painted with tincture of **iodine**, and the limb bandaged.

The patient should keep her bed for some days after all fever has disappeared, as a part of the thrombus may be loosed by active motion.

In that form of the disease where there is subcutaneous inflammation of the limb without thrombosis in the veins, the same precautions in putting the patient to bed should be observed, and the limb similarly rubbed with dilute mercurial ointment. But should speedy improvement not follow these measures, the physician should not delay to make free incisions in the skin, to

give vent to the pus which has formed, and to lessen the tension and swelling. A rapid change for the better will follow this measure. Applications of cloths wrung out of warm chamomile tea, and washing the wound with weak carbolic acid lotion (one per cent.), will appropriately follow. Of course the general strength must be supported by wine, soups, milk, etc.

POWERS has found great benefit from applying a **tobacco** salve or plaster to the limb throughout its whole length. Within twenty-four hours the painful stasis is relieved, and in a few days the patient is fully restored. The formula he uses is the following :—

R	Navy plug tobacco,.....	$\frac{1}{2}$	pound
	Tallow,.....	$\frac{3}{4}$	"
	Rosin,.....	$\frac{1}{2}$	"
	Lard or olive oil,.....	$\frac{1}{4}$	"
	Beeswax,.....	$\frac{1}{2}$	"
	Balsam fir,.....	1	ounce
	Burgundy pitch,.....	$\frac{1}{2}$	pound
	Vinegar,.....	2	pints
	Water,.....	$\frac{1}{2}$	pint

Cut up the tobacco and soak it in the water till soft; add one pint of the vinegar, boil, strain, and add the second pint; boil and strain, and add the wax, rosin and lard. Boil till all the water evaporates, add the balsam fir, and stir till cool.

A plan recommended by CRICHTON, is to apply a solution of the **sulphate of iron**, gr. xxx to water, fl. ʒj, using it as hot as it can be borne. This has been tried by some American physicians, and is said to be followed by a marked diminution of the pain and swelling, and to be one of the best local applications

FORDYCE BARKER says that the disease tends to a spontaneous recovery, and generally disappears without serious consequences. Hence any treatment which disturbs the system or the normal functions is objectionable. The indications are:

1. To allay the irritation of the nervous system, which can best be done by full doses of **opium** where there is no idiosyncrasy to prevent its use.

2. To support the system by nutritious food, stimulants and tonics. Of the last-mentioned, quinine and iron hold the first place.

Only in cases where special indications exist should catharsis be induced, or cups be applied over the kidneys. In nearly all cases there is no occasion whatever for these.

After the first two or three days, the disease becomes mostly local. The patient should keep quiet, the limbs be elevated at an angle above the trunk by raising the lower part of the mattress, and where there is hyperesthesia of the surface and pain in the deep-seated nerves, much relief will be obtained by gently rubbing the surface with a liniment like the following:—

R	Linimenti saponis co.,	f 3	vj
	Tinct. opii,	f 3	iss
	Tinct. aconiti radidis,	f 3	ss
	Ex. belladonnæ,	3	ss

M. S.—For a liniment.

The rubbing with this should be gentle and continued for fifteen or twenty minutes, and *always toward the trunk*. This may be repeated every six hours, after which the leg should be enveloped in cotton batting and covered with raw silk.

After the period of acute tension, the leg should be examined for localized phlegmon, and if any circumscribed collection of pus be discovered, it should be evacuated at once; otherwise the tonicity of the tissues will best be promoted by applying a roller bandage, beginning at the toes and carrying it up the whole length of the limb. This should be worn so long as there is any tendency to œdema of the foot and leg. The patient should not be permitted to walk until all evidence of local disease has disappeared.

TANNER employs warm sedative applications, and gives **opiates** to relieve the pain. Subsequently, great benefit accrues from attempts to improve the condition of the blood, by the use of wine, brandy, milk and raw eggs, animal food, ammonia and cinchona. If there be offensive vaginal discharges, injections of weak, disinfecting solutions should be used.

Blisters, stimulating liniments and bandages to the limb, are useful when all the acute symptoms have subsided; at which stage benefit is derived from iodide of iron, cod-liver oil, and sea-air. ROBERTS also speaks strongly in favor of supporting the

patient by nourishing food and stimulants. He also uses anodynes locally and internally.

ELLERSLIE WALLACE was accustomed to recommend covering the affected limb with **mercurial ointment**. In one case where stiffness and lameness remained for years after an attack, we found the greatest benefit from the use of large doses of iodide of potassium, together with the use of massage, and the inunction of very hot camphor liniment.

PHTHISIS: ACUTE, OR GALLOPING CONSUMPTION.

LOOMIS has nothing to say upon this head except that hypodermics of **morphine**, gr. $\frac{1}{20}$, prove more satisfactory than anything else in staying the disease, prolonging life, and keeping the patient comfortable.

NIEMEYER takes the same gloomy view of the prognosis. He advises large doses of **quinine** at the outset, and at a later period, digitalis, nitre, and the mineral acids. For the dyspnea, **cold** is to be applied, and narcotics are to be used for the cough.

MCCALL ANDERSON has reported some cures of this disease. The treatment adopted was as follows: The patient was fed every hour with some light form of nourishment. Brandy was given in moderate quantities, and stimulating expectorants were administered when deemed requisite.

The high fever was treated by the use of iced cloths to the abdomen, applied as follows: The night-dress is pulled well up over the chest so as to avoid any possibility of its being wet, and a folded blanket is placed across the bed under the patient's body. The bed-clothes are arranged to reach only to the lower part of the chest, which latter is covered with a separate blanket. Two pieces of flannel are employed, each large enough, when folded into four layers, to cover the whole of the front and sides of the abdomen. One of these, wrung out of iced water, and covered with a piece of dry flannel to prevent the bedding from being wet, is applied to the abdomen, while the other is left in a large basin filled

with iced water at the side of the bed. The flannels are changed every minute. This can be done with the greatest ease and rapidity, and without exposing the patient to any injurious extent. For the profuse perspirations he used hypodermic injections of **atropine**, $\frac{1}{100}$ of a grain, repeated every night.

Besides the application of iced cloths, he made use of NIE-MEYER's pill, composed as follows:

R Quininae sulph.,.....gr. **xx**
 Digitalis pulv.,.....gr. **xx**
 Opii pulv.,.....
 Ipecac. pulv.,.....ãã gr. **v**
 M. ft. mas. et in pil. no. **xx**. div.
 S.—One every four to eight hours.

To those who do not believe in the curability of tubercular diseases, it may be said that all cases of galloping consumption are not tubercular. But even were this not the truth, the very remarkable case reported by SIR SPENCER WELLS, and mentioned in the article upon tubercular peritonitis, should lead us to doubt the universal incurability of these affections.

In one case we have had an opportunity of putting ANDERSON's system to the test. Unfortunately, when the patient came into our hands, she was far advanced in a quick consumption. For three weeks she had been unable to lie down, but sat in a chair with her head on a bureau.

Although we cannot boast of a cure in this case, we learned a lesson we have never forgotten, in the greatness of the relief which followed the use of the iced applications to the abdomen. Until the day she died, the poor young girl blessed the remedy which enabled her to rest quietly in her bed for the remainder of her life.

2. PHTHISIS: CHRONIC.

The treatment of this affection elaborated by that great clinician, FELIX VON NIEMEYER, is so admirable that we shall give it entire, in his own words:

"The treatment of consumption has made great advances since the recognition of the fact that the disease depends, as a rule, upon inflammatory action, and is only now and then due to neoplasm. This view of the case has not led to the introduction of any new

remedies for consumption, but it has enabled us more definitely to establish indications for remedies already long in use, so that by their methodical application, better results have been attained than were formerly gained at a time when consumption and cancer were regarded as equally incurable, and were somewhat similarly treated.

Prophylaxis against consumption requires, in the first place, that, when an individual shows signs of defective nutrition and a feeble constitution, especially if already he have given positive evidence of unusual delicacy, with a tendency to diseases which result in caseous products, *he should be placed, if possible, under influences calculated to invigorate the constitution, and to extinguish such morbid tendency.*

Delicate children, especially such as are born of consumptive or otherwise decrepit parents, should not be suckled by their own mothers; still less ought they to be reared artificially on "pap," but should be confided to good wet-nurses. After weaning the child, let its diet consist almost exclusively of **cow's milk**, instead of the customary pap of meal or bread, and after it is done teething let it eat a little meat. This diet must be kept up throughout the whole period of childhood, whenever there is any indication of glandular enlargement, moist cutaneous eruption, or any other so-called scrofulous affection, or even when they merely give evidence of a so-called scrofulous habit. It is better to prescribe the exact amount of milk the child must take (after drinking which it may eat what bread, potatoes, or the like, it pleases), than merely to warn the parents in general terms against the immoderate use of bread and potatoes. When the child has drunk milk enough, the other food will do no harm. The common direction, that a "child shall not eat dry food," is wrong. It is better that it should chew and eat its bread dry, so that the starch which it contains may be properly combined with saliva, whereby it is more thoroughly converted into sugar and is easier of assimilation. Besides this, however, it will drink all the more milk if it eat its bread plain. A similar plan of treatment is of course proper for children, who, instead of inheriting, have acquired a feebleness of constitution which often shows itself at an early date in the form of scrofula, and occasions a predisposition to consumption.

A proper supply of **fresh air** is of equal importance with regulation of the diet. The facts adduced above, illustrating the baneful effect of continual in-door life in producing scrofula and consumption, are not sufficiently taken into account by many physicians. They very often suffer delicate, sickly children to sit day after day and six hours at a time upon the benches of a crowded school-room, after which they have their tasks at home to prepare, private lessons to take, the piano to play, etc. Cod-liver oil and an occasional month at a watering-place cannot possibly repair the injurious effects of such a mode of life. As soon as the influence of this immoderate "schooling" begins to "tell," a reduction of it, or even a total cessation of it, should be imperatively insisted on. Obstinate opposition to such demands will be often met with, but, in a series of instances in which I have obtained a complete and prolonged respite from education, and made the children spend most of their time in the open air, I have obtained effects at which I was myself astonished, and which completely satisfied their parents that the results fully outweighed the serious sacrifices which they had made. People in easy circumstances, who have delicate and scrofulous children, especially if subject to croup and bronchitis, should be induced to spend their winters in the South, so that the children may also pass those months in the open air, which in our climate would be too cold. This is a very common practice in Russia, where the pernicious effects of indoor life during the long winter are very conspicuous.

In adults, when the signs of delicacy and weakness, combined with deterioration of the blood, appear, the use of ferruginous preparations is to be recommended, particularly the **chalybeate** springs of Pyrmont, Driburg, Innau, etc. I think that this treatment deserves a more general adoption, as a prophylactic measure against consumption, than it has received hitherto.

Prophylactic treatment of consumption further demands a careful avoidance of all agents calculated to cause hyperemia of the lungs and bronchial catarrh, and which we have enumerated as exciting causes of phthisis. Persons in whom a tendency to consumption is suspected, should be strictly forbidden to inhale an atmosphere charged with smoke or dust, or which is too hot or too cold, as well as to make great efforts in running, singing, or

dancing, or to drink hot or spirituous beverages. Chilling of the skin is to be guarded against with the utmost care, and the patient should be made to wear flannel next the skin. What we have already said regarding the prophylaxis against pulmonary hyperemia and bronchial catarrh is equally applicable in the present instance.

Finally, whenever there is the slightest suspicion of a predisposition to consumption, every catarrh, no matter how slight, is to be treated with the utmost care, which is not to be relaxed until the catarrh is entirely well. This rule, so obvious from our point of view, is very frequently violated. Many patients fall a victim to the deeply-rooted prejudice, that a neglected catarrh never leads to consumption.

The rules which we have laid down for the prevention of phthisis must be carried out with equal strictness, whether the disease have merely just commenced, or whether it already have made some progress. It is therefore superfluous to make separate mention of the indications derived from the cause, as they are identical with those of prophylaxis.

When the air-vesicles of the lung become involved in the bronchial catarrh, the *indicatio morbi* calls for the usual remedies applicable to chronic inflammation. Above all, the affected lung, like any other inflamed organ, is to be shielded from the action of any new irritation. It is incredible how much this simple rule (so obvious where the nature of phthisis is rightly understood) is disregarded by many physicians. It is a matter of daily occurrence that patients from the better class, suffering from advanced consumption, are not sufficiently urged by their physician to withdraw from their occupation, to throw up their position at the counting-house or office, and to keep away from club-rooms, with their over-heated and tobacco-laden atmosphere. It is often by exposure to irritants like the above, whose effect is so very injurious to the inflamed lung, that the extension of the inflammatory product is aggravated and made to terminate in disorganization, while, by their careful avoidance, the disease is often promptly arrested and brought to a favorable issue. The beneficial effect obtained in consumption, by protecting the affected lung from further detriment, is still more marked among the poorer classes,

who seek aid at the hospitals. Many patients are received in a condition so wretched that a speedy death seems imminent, and yet they leave the institution, in the course of a few weeks or months, in much stronger and better condition, and often with a material increase in weight. Soon, however, they return, seeking readmission, their condition having grown rapidly worse again, owing to inclemency of the weather, and to other noxious influences, to which they have been exposed.

Were it not for the very grave objections already detailed, I should counsel most consumptive patients to keep the house during our Northern winter, and to maintain the utmost uniformity of temperature in their chamber, in order to preserve their lungs from further harm. This dilemma may be obviated by making the patient avoid the Northern winter, by sending him to some place where he can spend the greater part of the day in the open air, without risk of taking cold, or of inhaling a raw, inclement atmosphere. This, in my opinion, is the real benefit derivable from change of climate. When a patient has the means, we should never omit to enjoin upon him to make the sacrifice, but the matter must be made plain to him, so that he may not suppose the air of the place to which he is sent has any special curative power upon his lungs. We need not expect any benefit from a residence in Nizza, Mentone, Pau, Pisa, Algiers, Cairo, or Madeira, unless the patient fully understands that he must take care of himself. Otherwise, it were often better that he remained at home. Acting upon this principle, the patient should be sent during the autumn, and before the harsh winter sets in, to Soden, Badenweiler, Wiesbaden, and, above all, to the lake of Geneva, where he may try the **grape-cure**, and where he is as well protected as he is at home during the summer. None but very intelligent and prudent persons, who we may be sure will stay at home in bad weather, should be allowed to spend the winter at Nizza, Mentone, Pisa, or Pau. When the patients have the means, it is always better to send them to Algiers, Cairo, or Madeira. The comparative merit of these winter abodes is not as yet positively determined, and the indications for preferring Madeira, Algiers, or Cairo, in particular cases, or for certain stages of the disease, are so indefinite as to be of little value. One principle, however,

always obtains: *that the patient, wherever he may be, must live circumspectly, and remain under the charge of an intelligent and strict physician.*

For patients who are unable to seek a milder climate, the use of a "respirator," of wire gauze, warmed by the breath, through which the external air is inhaled, is advisable. A handkerchief held before the mouth, however, which also is soon warmed by the expired air, will answer the same purpose, and, indeed, is really better than a "respirator," as it is not, like the latter, liable to become too warm.

When the invasion of the air-vesicles by acute catarrh, or the rapid spreading of a catarrhal pneumonia, is accompanied by violent symptoms, when high fever sets in, when the sputa become bloody, and the patient complains of lancinating pain upon drawing breath, and upon coughing, local depletion, by means of leeches or cups, and the application of cataplasms, should be resorted to. At the same time, the patient must be required to keep his bed until all symptoms of the acute attack, or of the exacerbation of the old inflammatory disorder of the lung, are past. The fits of shivering, which come on regularly every evening, in many cases of phthisis, and which sometimes actually amount to rigors, have often been observed to cease if the patient remain in bed. And, upon closer observation, it has been found that not only does the chill which heralds the evening access of fever, but all the other febrile symptoms, especially the rise in temperature, undergo marked improvement while the patient remains in bed for a few days. There is nothing strange about this, if, instead of regarding the hectic fever of consumptives as something peculiar, as an *ens sui generis*, we look upon it as a fever due to chronic inflammation. The fever which accompanies bronchial catarrh, pneumonia, or inflammation of any other organ, increases and diminishes, as the disease grows better or worse, and it is just the same with the hectic fever of phthisis. Hence, if resting in bed, such as we generally recommend in other inflammatory disorders, have a beneficial effect upon the pneumonia of consumptives, it will tend also to mitigate their fever.

The use of the **alkaline muriate** mineral waters, which is often so beneficial in simple catarrh, is equally useful in some cases of

consumption. According to our view of the disease, this effect (which of course all believers in the theories of LÆNNEC will deny) is not more enigmatical than that which these waters produce upon a simple catarrhal inflammation, which does not involve the substance of the lung. The idea that the use of the waters of Ems and Obersaltzbrunner is contraindicated by the presence of fever, is merely one of the results of imperfect observation. It is not the mineral waters which disagree with the fever, but the journey to the watering-place, and the promenades at the springs. As we have said before, a patient with any appreciable degree of fever ought to be in his room or in his bed.

A continued abode in elevated regions, where, without any apparent reason, consumption is rare, is also advisable for consumptives, when their disease depends upon chronic pneumonia. I fully approve of the customary practice of sending phthisical patients to spend their summer at Heiden, Gais, Weissbad, Kreuth, etc., although I think but little of the "curds and whey treatment" which is practised there.

In tuberculous phthisis, and in secondary tuberculosis, it is out of our power to meet the indications derived from the disease itself.

Indicatio Symptomatica.—Fever is the symptom which principally demands treatment, whenever it persists at all severely, in spite of the remedies directed against the main disease. **Antipyretics** very properly play a most important part in the therapeutics of consumption. It is not that these remedies exert any more direct influence upon chronic pneumonia than they do upon croupous pneumonia or typhus, or upon any other of the many maladies in which they are so much prescribed, often, indeed, without any very clear idea as to what is to be expected of them. But if we know that the discharge of mucus and of pus-cells has but little to do with the exhaustion of the patient (indeed, it is often far more profuse in a simple bronchial catarrh), and that the fever is really his most formidable enemy, it follows, of course, that we must use every means at hand of combating this enemy.

Digitalis and **quinine** have a well-merited reputation, as means whereby we often succeed in arresting the abnormal calorification, and reducing the animal heat, in spite of the continuation

of the disease. Digitalis is the principal ingredient of the much-employed Heim's pill. (R. pulv. herb. digitalis $\mathfrak{z}$ ss., pulv. rad. ipecac., pulv. opii puri $\mathfrak{a}\mathfrak{a}$. gr. v., pil. no. XX. S. a pill three times daily.)

The addition of a scruple of quinine to the above prescription becomes all the more appropriate, the more periodical the type assumed by the fever, the more severe its evening exacerbations become, and the more pronounced the chills by which they are ushered in. I am so much in the habit of using Heim's pill with or without quinine, in consumption, whenever the fever proves refractory to the other remedies heretofore mentioned, that it has become a very common prescription at my clinic. Now and then, when I am a good deal consulted by phthisical patients, I prescribe it three or four times in one day. At the clinic, exhibition of the pills is suspended whenever a distinct reduction of the temperature and of the frequency of the pulse becomes apparent, and is resumed as soon as the effect subsides. In consultation practice, I have repeatedly found that the patients pretty soon learn to judge for themselves when it is time to stop the pills, and when to resume them.

The subject of antipyretic treatment of consumption may, with great propriety, be immediately followed by that of the diet of phthisical patients, for the same reason which induced us to treat the subjects of fever and emaciation in immediate conjunction. A man who has fever which is rapidly consuming him, stands in far greater need of a supply of nutriment than one who has no fever. The fever of a consumptive patient often lasts for months, so that the danger that it will wear him out is greater in his case than in one of acute febrile disease of brief duration. Hence it follows that phthisical patients require the richest possible diet which will agree with them. It is often said, but without any proof whatever, that food excites the fever, and (independently of the English practice) even here (in Germany) we only keep a patient on fever-diet—that is, we only deprive him of nourishing food until it becomes evidently dangerous to persist in so doing. As soon as this is evident, the so-called law of nutrition is utterly ignored, or rather, it is flagrantly violated. In selecting suitable nourishment for consumptives, articles commended, time out of

mind, by rude experience, are found to be in complete agreement with the current physiological laws of assimilation and nutrition. All the food which is regarded as especially proper for phthysical patients contains large quantities of fat or of fat-generating matter, and a comparatively small portion of protein substances. This accords with our experience, that the production of urea, and hence the destructive assimilation of nitrogeneous constituents, is augmented by an increase of the supply of protein substances, while, by a simultaneous free supply of fat or fattening food, the destructive assimilation and consumption of the organs of most importance in the body are diminished. Thus the use of milk, to which little children owe the plumpness of their limbs, and from which corpulent persons do well to abstain, cannot be sufficiently urged upon consumptive persons. It is altogether useless, however, and indeed wrong, to remove the casein of the milk, and to give it in the form of whey, unless, indeed, the whey agree with the patient better than milk, which is rarely the case. I often order my patients to drink a pint of milk, "warm from the cow," three times a day, but have no other object in so doing than that of preventing the milk from being skimmed, which is impossible immediately after milking. The milk of animals which pasture in the mountains, such as goat's milk, but above all, ass's milk, is in especial repute, and it is desirable to send patients who can travel without danger, to places where there are dairies where a supply of good fresh milk is to be obtained. Where this cannot be done, the "milk-cure" must be practised at home. The name is of importance, in order that the patients may have faith in the treatment, and follow it out punctually. I have treated a great number of patients who, as soon as they found that they increased appreciably in weight, for half a year at a time drank three or four pints of milk daily without repugnance.

The use of **cod-liver oil** is also highly commendable, and, when it agrees well with the patient, may be combined with plenty of milk. It is more than doubtful whether this oil, which is hardly ever withheld in phthisis, at all events in Germany, exerts any specific influence upon the disease. The quantity of iodine in it is so trifling that it cannot be taken into account,

hence it is probable that all its beneficial effects are solely due to the large amount of fat which it affords. This is all the more likely, as **dog's fat** is a popular remedy for consumption, as ancient and well-tried as cod-liver oil.

Of late years I have obtained very good effects from an **extract of malt**, prepared by TROMMER. This preparation of TROMMER is not a strong beer, containing a large amount of alcohol and carbonic acid; like the Hoff's malt extract so greatly extolled, but is a genuine extract resembling other officinal extracts, and consists of the soluble constituents of the malt, and of the bitter extractive matter of the hops, and can be prepared by every apothecary. One hundred parts of it contain about seventy-six parts of grape sugar, or malt sugar, dextrin, bitter of hops, resin of hops, and tannin, seven parts of albuminous or protein substance, eighty-two hundredths of a part of phosphate of lime and magnesia, eighteen hundredths of alkaline salts, and sixteen parts of water. The patients almost always enjoy two or three table-spoonfuls of it daily, and it usually agrees well with them. It may be diluted in spring-water, mineral-water, or warm milk or other liquid.

Broth, made of coarsely-broken rye-meal, which contains a good deal of gluten, beside the starch, is a good food for consumptives, and has long enjoyed such a reputation. Soup of lentils and bean-meal (*revalenta arabica*), as well as the various preparations of chocolate, mixed with cacao-meal, and sold under various names, is also appropriate.

Jellies of animal or vegetable substances are much less desirable, such as the snail-soup, and the jelly from the Iceland moss.

With respect to the symptomatic treatment of the cough and expectoration, we simply refer to what has already been said regarding the treatment of bronchial catarrh. An indiscriminate use, one after another, of the so-called expectorants, is as absurd in the treatment of the chronic bronchial catarrh which accompanies phthisis as it is in any other form of catarrh. The sweet, mucilaginous, "soothing," demulcent articles are least serviceable of all. Precisely according to the conditions laid down above, the **alkaline chlorides** may be required at one time, at another **senega**, squills, or other stimulants may be indicated, and at still another

the articles which diminish secretion. As we have already expressed our preference for the balsams and resins for the latter purpose, I must again say a word or two in favor of **saccharum myrrhæ**, and of Griffith's mixture, adding, however, that acetate of lead is held in great esteem by many authorities as a remedy for the condition in question. (In almost every case where acetate of lead is used it is given in combination with opium, to which some of the effect attributed to the lead is certainly due.)

The narcotics are to be employed in order to allay the cough, and are quite indispensable in consumption. As we have said already, it is not the soothing, soporific action of the first few doses of the opium or morphine which gratifies the patients, but it is because they find that they cough less and more easily, "that their cough is looser;" and, indeed, when we consider that coughing is an irritant to the bronchial mucous membrane, which is the principal source of the secretion, it seems quite probable that a diminution of the inclination to cough may result in a decrease of the expectoration. Nevertheless, it is best not to commence using the narcotics too soon, and, instead of opium, we should begin with small doses of something else, as extract of *lactucaria virosa*, gr. ss to gr. j, in powder, or in the form of a syrup. By a too early resort to narcotics, it may happen that they fail of effect at a later period, when the need for them has become most urgent, as when the tormenting cough of a laryngeal phthisis deprives the patient of rest both by night and by day. It seems also, that, as soon as it becomes necessary to give large doses of opium, the progress of the consumption becomes more rapid, an additional reason against a too hasty employment of a remedy which becomes indispensable to the patient. When the narcotics are not tolerated by the stomach, they must be injected subcutaneously.

For the night-sweats we may order small doses of "Haller's acid," or the patient may drink a cup of cold sage-tea, if the antipyretic treatment fails to do good. The efficacy of the above articles is somewhat questionable, no doubt, but it would be cruel to tell the patient that there are no means of relief from this distressing symptom. Some physicians recommend the *boletus loricis* (a very unsafe article), as a most efficient remedy against the night-sweats of consumption.

Woodbury says that the best combination, where the expectoration is scanty and the cough spasmodic, is the **morphine** and **ipecacuanha** lozenge (containing only the fortieth of a grain of morphine), using three or four in the course of the day. Troches of **codeine** are useful in paroxysmal coughing. Where the cough is loose and bronchorrhea exists, fluid extract of ergot in decided doses sometimes acts well, both directly upon the vessels of the mucous membrane, and indirectly upon the heart and circulation. The steam **atomizer** may also be used once daily, with lime-water and belladonna (gr. j to $\frac{3}{4}$ iv), or, if the secretions be fetid, with solutions of carbolic or salicylic acid, thymol, or benzoate of sodium; and where the catarrhal condition is marked, a medicated water of volatile oil of eucalyptus, or compound tincture of benzoin, turpentine, or iodine can be substituted. Of the aërial inhalers (used through a *respirateur* or on a handkerchief), the principal one is emphatically **chloroform**; but it should be controlled by the physician himself. This has yielded so much relief that a few years ago it was lauded as curative, and even now is believed to be the basis of a popular and profitable ozone cure for consumption. A mixture of ether and eau-de-Cologne (one part to four) may be given to patients to inhale in the intervals, if the cough be spasmodic and severe. Iodine and carbolic acid (one to three), dropped on some absorbent cotton already impregnated with the oil of nutmeg, is sometimes efficient, the vapor being inhaled once or twice daily, for ten or fifteen minutes at a time.

Where a cough remedy is required, he prefers **atropine**, hyoscyamus, or hydrocyanic acid combinations, chloral, with bromide of ammonium, sodium, or potassium, according to circumstances. Where there is a constant hacking cough, the **bromide of potassium** acts magically, but is too depressing for constant use. Where it is safe to use opium, a combination, introduced by Da Costa, of deodorized tincture of opium (gtt. iij-v), dilute sulphuric acid (mij-ijj), and syrup of wild cherry (ʒi-ij), is pleasant and very efficient. The infusion of *prunus Virginiana*, properly made, is a good antispasmodic and, at the same time, tonic, and was formerly used in consumption much more than it is at present. The **lycopus Virginica** infusion (f ʒss to Oj) enjoyed a high reputation at a former period in the treatment of

consumption, a wineglassful being taken three or four times a day. The fluid extract may be used in doses of from eight to thirty minims, to be gradually increased; but the recent infusion is the best method of administration. This remedy seems also to have fallen into undeserved neglect. Cases that have been recorded satisfactorily establish its good effects when used in conjunction with proper hygienic care of the patient.

When the larynx is affected, it appears irritated and swollen by the constant efforts at coughing, and often displays ulcers, which are usually secondary, and not tuberculous. Much relief will be obtained by habitually restraining the spells of coughing; by local treatment (sprays of lime-water, etc., or applications of **iodoform** in ether, etc.) gargles of weak astringents, or lemonade containing white of egg; or by demulcent lozenges (marshmallow, or chlorate of potash, etc.) allowed to dissolve slowly in the mouth. Local applications to the larynx are often of great service, especially in tubercular ulceration. In men, allowing the beard to grow sometimes greatly relieves the throat trouble.

Pains in the chest may be dissipated by **liniments**, such as turpentine, camphorated oil, chloral in soap liniment (℞ss in ℥vj). The mild continued counter-irritant effect obtained by a belladonna or porous plaster is also valuable. The substernal tenderness and soreness of the abdominal muscles may be obviated to some extent by lying upon the front of the body and allowing the head to hang over the side during the morning spell of expectoration and coughing. A flannel bandage constantly worn around the waist sometimes affords a relief not to be obtained by drugs. The sedative effect of the constant galvanic current will not only often relieve the local symptoms, but also affect the general system very favorably.

Hemoptysis requires rest in bed, ice to the chest (thirty minutes on and fifteen minutes off), and the internal administration of **ergot**, ipecacuanha, acetate of lead, or gallic acid. Tincture of iron, or Monsel's solution greatly diluted, in urgent cases, is recommended to be used in the hand or steam atomizer; but this excites cough. If the hemorrhage be serious, ergot or ether given hypodermically may check it, as in post-partum bleeding.

Dyspnea, or air-hunger, when it indicates an over-accumulation

of secretions in the lungs, and especially if emphysema be present, may be quickly relieved by an **emetic** like ipecacuanha, which has especial advantages in pulmonary engorgement, or by the yellow sulphate of mercury, or by apomorphine given hypodermically (gr. $\frac{1}{4}$), when a quick effect is desired. When the breathing capacity of the lungs is greatly reduced, inhalations of **oxygen** have proved highly serviceable. When the lungs are choked with catarrhal or inflammatory products that are tenacious and inspissated, the use of **ammonium chloride** in twenty grain doses, frequently repeated, or given in smaller dose with the iodide of ammonium or potassium yields remarkable results. They are commonly given in the compound liquorice mixture, to which the syrup of sassafras or tincture of ipecacuanha is often added. As the dyspnea may be due to pleurisy or emphysema, the chest should be examined to determine any physical cause that perhaps may admit of removal. Strapping the chest with adhesive plaster will sometimes afford great relief from pleurodynia.

Congestions of the lungs, occurring suddenly in the course of the disease, require rest, **dry-cups**, and counter-irritation. As they generally precede hemoptysis, the measures adapted to the latter will often need to be called into requisition. Chronic consolidation of a circumscribed portion of the lung is often benefited by a succession of small **blisters**, which may be conveniently made by the application of cantharidal collodion. In all forms of chronic bronchial disease, the use of **inunctions** of coconut oil, walnut oil, sweet oil, lard, or similar substances, will improve the nutrition and relieve the congestion of the mucous lining of the air-passages. In children, **cod-liver oil** may be thus administered, applying it at night, and covering the chest with cotton-wool or flannel, or an oiling may be made after the morning bath to the whole skin, and the child wrapped up loosely in a blanket for a half-hour or so. In this way a considerable amount of the oil may be absorbed.

Where there is some cardiac hypertrophy, the use of the bromide of potassium (especially with chloral or morphine, in order to induce sleep) is serviceable. When the heart is weak and the circulation languid, a cardiac tonic like **digitalis**, quinine, boldo, or viscum album will prove necessary; but veratrum viride

will be required if hypertrophy be marked. It is in the condition of failing circulation that a small amount of alcohol in a hot drink is often of great service. **Alcohol** is really contra-indicated in phthisis pulmonalis, as far as the state of the respiratory apparatus is concerned; but small amounts given guardedly may yield more than a temporary benefit from their action upon the stomach and heart. Probably the best (because most lasting) stimulant for these cases is the fluid extract of **coca** (℥ss-j), which promptly exerts a marked effect. A bowl of meat-broth, of *bouillon*, or of hot coffee (containing an egg beaten up with cream), or even a cup of tea, is often much more serviceable to the patient than hot whiskey. When a patient feels chilly, exercise in the open air, on horseback, or walking, will often quickly restore him to warmth when a hot fire and extra clothing fail to make him comfortable. Food and exercise in the fresh air are physiological stimulants to the heart and circulation that deserve the highest appreciation, and this fact is well recognized in the various resorts for the out-of-door treatment of phthisis. Where the heart is weak and irregular, the use of digitalis in combination with quinine and a small amount of opium, in the form so highly praised by NIEMEYER, has stood the test of experience; but in all such cases it is important to bear in mind that uninterrupted rest of seven or eight hours at night is a better general tonic than any remedy in the Pharmacopœia.

Fever.—Quinine is sometimes serviceable in the hectic, or more properly septic, fever of chronic pulmonary inflammation, but often fails. He has more faith in **salicin** (gr. xx), given at least two hours before the onset, which sometimes acts like a charm, as it greatly reduces the fever, and makes the patient much more comfortable. It should be the rule that, while the fever is on, the patient should lie down, and not be allowed to sit up until it has passed. As the hectic is symptomatic of chronic inflammation of the lung, and often of septic poisoning, it admits of palliation rather than cure, unless, indeed, we succeed in ultimately removing the cause. If there be much discomfort, **sponging** the surface of the body with bay rum or vinegar and water is often practised; either hot or cold sponging may be tried. By reducing the febrile action, the same remedies are prophylactic as regards sweating.

Night-Sweats.—Of all the remedies for the treatment of the exhausting night-sweats of consumption, **atropine** stands at the head of the list for efficiency. It may be given, as recommended by DA COSTA, in a single dose at bedtime (gr. one-sixtieth to one-eightieth), or in smaller doses through the day, as preferred by BARTHOLOW. Unfortunately, it greatly increases thirst, and gives the patient a parched throat in the morning, to remedy which its combination with ergot or jaborandi has been recommended. The aromatic sulphuric acid, in doses of from ten to twenty drops, is also quite efficient; so is the oxide of zinc (gr. ij-ijj in pill), given at bedtime. Muscarine and physostigma have also been used with good results. The hypodermic injection of **homatropine** (.015 gm.) has recently been highly lauded by FROMMÜLLER; and the internal administration of ergotine or fluid extract of ergot has lately been urged in several quarters; but all specific medication will be of but temporary benefit, unless due attention be paid to the bed, ventilation, the clothing, and other hygienic points to be considered farther on. The addition of alum, or alcohol, or sea-salt, in the daily sponge-bath will greatly reduce the tendency to perspiration, which has been well called a “leaky condition of the skin..” This condition may be to some extent corrected by sponging the surface with hot water at bedtime.

Diēt.—The food of the consumptive is of primary importance. Care must be taken to see that it is a form easy of assimilation, and that it is sufficient in amount. Too often the “sick one’s sickly appetite” is satisfied with a cup of tea or the minimum quantity of food. Such invalids rarely ask for food, and therefore require provision to be made by others. On account of the common cœexistence of stomach disorder, or gastric catarrh, the same care is required in regard to starchy articles that easily undergo fermentation, as in ordinary dyspepsia. So important is this point considered that SALISBURY has made it the basis of a treatment of consumption, the success of which in many cases cannot be denied: whether its success likewise establishes the truth of his theory of the cause of consumption is another question. It is certain that cases can recover without restriction from starchy food; and it is probable that a diet containing nitrogen in

excess may injure the kidneys and liver, or at least interfere with their functions. Where there is a decided tendency to diarrhea, boiled milk is the best article of food, and a strict milk diet may be temporarily resorted to. Of all the forms of milk where the digestive tract is in a weak and irritable condition, that known as "**koumyss**," or milk-wine is of the greatest service, and many consumptives date the beginning of their improvement from its use. Extract of malt, the hypophosphites, the compound syrup of the phosphates of lime, iron, sodium, and potassium (Parrish's chemical food), are each serviceable as additions to the ordinary food; but the addition of **strychnine** to the syrup of the phosphates (gr. j to 5vj) greatly increases its value. Beef-essence, as usually prepared, is simply a nervo-muscular stimulant; but when combined with an egg, as *bouillon*, it is a valuable concentrated form of nourishment. The best way to extract the nutritive juices of the meat is to mince it fine, heat it moderately, and squeeze out the juice in a small wine or fruit-press. Beef-blood, either fresh or in the form known as desiccated blood, excites a natural repugnance in the ordinary mode of administration, but as an enema it offers especial advantages. The method of forced feeding by a tube, as practiced by DEBOVE, has attracted much attention, and appears of great value where the laryngeal ulceration has involved the epiglottis to such an extent that swallowing is painful or impossible; but as a general rule the trouble with nutrition is found not so much in the administration of nutritive fluids as in retaining them after they have been swallowed.

He places a high value upon eggs given as fresh as possible. The phosphorized yellow fat (*lecithin*) of the yolk of eggs, is useful for building up nervous tissue, while the albumen replaces the loss by expectoration and hemorrhages. He urges upon patients the importance of taking from one to three eggs each day, either lightly boiled, poached or raw. In the latter form they may be given with coffee (*mélange*), beef-tea, wine or beer. Cream is also serviceable in consumption, and where it can be taken freely affords a good substitute for cod-liver oil. Sick persons should not be rigidly restricted to the formal meals, but should have food suited to their digestion at times most agreeable to them. It is sometimes well to give nourishment in the middle of the night, to break the long fast from tea-time to morning.

The *diarrhea* of these patients may be kept in check by the use of suppositories of belladonna and extract of opium, in conjunction with the milk diet referred to above. Ulceration of the colon and rectum is sometimes greatly benefited by injection of **nitrate of silver** (gr. $\frac{1}{4}$ to $\frac{3}{4}$). If constipation exist, simple enemata containing a few drops of camphor are preferable to the administration of purgatives; but, when required, cascara elixir or granules of podophyllin, alone or with atropine and strychnine, are better than the more violent cathartics. From a surgical standpoint a fistule certainly should be operated upon; from a medical standpoint, it should not be healed too quickly, and on this account he prefers the ligature to the knife. This is also the teaching of Gross. The old prejudice against closing a long-established drain in a case of chronic disease is not without foundation in fact, and the practice of opening an issue elsewhere in the body, although lately fallen into disrepute, has the experience of past generations of physicians in favor of it, as well as the authority of eminent surgeons like the late Professors PANCOAST and JAS. R. WOOD to endorse it.

Nervous System.—Among the peculiar nervous symptoms has been noticed a general erethism, with elevation of all the faculties. In this condition, the brain tends to wakefulness. Now, almost the first essential to healthy nutrition is a proper amount of sound, uninterrupted sleep. Some of the measures for the relief of sleeplessness will be referred to hereafter, but of all of them the administration of **opium** is the most efficient and, at the same time, the most to be dreaded: not merely on account of the danger of forming the opium-habit, but for its evil effects upon the cerebral circulation and general nutrition, it is to be shunned whenever possible. **Chloral** is better, but is still open to some objections; less, perhaps, when given in combination with bromide of ammonium and camphor-water, or with cherry-laurel water. The administration of some light food at bedtime sometimes favors sleep; and lactic or phosphoric acid has also been recommended for this purpose.

The emaciation and debility, in so far as they can be attributable to nervous deficiency, are treated by general measures indicated in the other portions of this paper. Where a tonic is

desired for the nervous system, there is none better than **nuxvomica**, given in combination with the phosphide of zinc (Hammond's pill) or the compound syrup of the phosphates.

Great injustice is often done to consumptives by placing them in the crowded ward of a hospital. The very nature of the case imperatively demands more oxygen and purer air than in health.

The clothing requires attention. It should be seasonable, comfortable, and not heavy. The body-linen should be frequently changed, especially if there be much perspiration. He insists upon a well ventilated room to sleep in, night-clothing that is aired during the day, and frictions to the skin each morning with a dry towel or flesh-brush. Faithful rubbing will do more to keep the skin in good condition than frequent ablutions, and of the two the former is to be preferred: consumptives cannot bear frequent sluicing with water, especially in winter, on account of their feeble powers of reaction. No bed can be better than a good hair and spring mattress.

One incidental but very great advantage is gained by separating the sick from the well, quite apart from any hypothetical danger of communicating the disease: it is thus, that the temptation to sexual indulgence is greatly reduced, a form of excess that is particularly obnoxious to the consumptive. The loss of vitality from coitus falls heavily upon the husband, but the sick wife is by no means exempt from evil consequences.

The tendency to chronic suppuration is one indication of the presence of what has been termed the tubercular or scrofulous dyscrasia. The means of treatment to be adopted are (1) a healthy residence, (2) change of habits, especially from a sedentary to an out-door life, (3) massage, (4) electricity, and (5) the use of certain remedies.

As a health resort, Kane, in Northwestern Pennsylvania, with an elevation of 2,200 feet, has already some reputation.

The climate of St. Paul, Minnesota, is well adapted to the treatment of incipient phthisis, in young adults especially; and Colorado also enjoys a reputation as well earned as Davosplatz, in the Alps; but, like the Himalayas and the Andes, these famous health resorts are in many cases too far from home for an invalid to visit without too much fatigue. Where the change is well

borne a decided improvement in nutrition and bodily weight is soon noticed. If there be any fever present the case is rendered worse by the change, also, if there be organic changes in the blood-vessels, heart, or kidneys, the patient had better not venture into an elevated region.

The sea-shore, although a powerful stimulant to nutrition, is, on account of the density and dampness of the atmosphere, admissible only, if at all, in the earliest stages of the disease.

When patients are unable to leave home, the active exercises recommended by Dr. Jos. PARRISH offer the best substitute; and a change from a sedentary to an active occupation has more than once averted a threatened consumption and established health and vigor in its place.

With regard to remedies, he commends the iodide of iron, in the form of Blancard's pills, which have shown remarkable power over obstinate consolidation of the lung. The iodides of potassium and ammonium are also valuable, not only for their alterative influence, but also for their effects upon the swollen epithelium of the bronchial tubes and air-cells, and for their power of liquefying morbid products and secretions and favoring their removal. The lacto-phosphate of lime and cod-liver oil are very serviceable, but should be given separately, the former in the syrup of lacto-phosphate of lime, and the latter alone or in extemporaneous emulsion with the extract of malt. The benzoates have been tried and found wanting. Possibly they are in danger of falling now into undeserved neglect.

LOOMIS speaks of the importance of treating catarrhs in those predisposed to consumption, and says he knows of nothing so certain to assist in this as a change of climate.

For the fever he considers **quinine** the most reliable agent. He gives twenty grains every alternate morning, first taking the precaution to send the patient to bed. Digitalis and salicylate of soda are not looked upon with favor by him. Arsenic acts as an antipyretic in some mild cases where others fail. One-tenth of a grain of morphine given with the quinine increases the effect of the latter. If the fever can be controlled, a change of climate will often carry the patient on to recovery, or at least will prolong his life and render him comfortable.

He finds that **cod liver oil** is not remedial unless the patient gains in weight while using it. The gain in weight is out of all proportion to the amount of oil taken; but the phthisical process may progress in the meantime. Sometimes it improves the appetite, or checks diarrhea or vomiting. No special benefit is obtained from giving larger doses than a tablespoonful. Lying down will often prevent it from disagreeing with the stomach. It must be given regularly and perseveringly in order to obtain the full benefit.

Phosphorous, sulphur, the hypophosphites of lime and soda, sulphurous acid, the sulphites, are all excellent adjuvants to the oil, but cannot take its place.

Alcohol is useful only when it increases the appetite and the strength, and gives rise to a desire for exercise. If its use cause fever followed by weakness and nervous depression, it will certainly prove harmful. Experience does not sustain the belief that alcohol can arrest the development of phthisis. It is a misfortune if the patient become addicted to the use of stimulants. If an individual recover under the use of alcohol, he would have recovered more quickly without it.

Opium should never be given in phthisis unless the cough deprive the patient of sleep, or distress him. Then the milder narcotics should be first tried. The inhalation of a few drops of **chloroform** will often be of greater utility than opium. Care should be taken lest the patient become habituated to the use of chloroform. Chloral, hydrobromic acid, chlorodyne, creosote, stramonium and belladonna sometimes act well. Oxalate of cerium has been recently employed. A constant hacking or paroxysmal cough may often be relieved by anodyne or sedative sprays. Ammonium carbonate in the infusion of wild cherry is one of the best stimulant expectorants, as it never nauseates.

If quinine alone does not control night sweats, opium may be added. Oxide of zinc, gr. ij-iv, gallic or sulphuric acid, arseniate of iron, gr. $\frac{1}{8}$ - $\frac{1}{4}$, **atropine** hypodermically, muscarine, picrotoxine, ergot, all may be tried. Cold spongings with acids, astringents or capsicum are useful and agreeable.

Gastro-intestinal hyperemia demands a carefully regulated diet, a saline laxative, and the lacto-phosphate of lime.

For intestinal tuberculosis, we may give cod-liver oil and the hypophosphites of lime and soda. If these fail, ten grains of **bismuth** and one-twelfth of a grain of morphine will almost certainly relieve for a time.

For ulceration of the large intestine, the greatest relief obtainable is that derived from the use of opium suppositories.

Vomiting after meals is most certainly relieved by giving the patient a glass of hot water every two hours, followed in half an hour by a teaspoonful of raw scraped beef made into a sandwich; the patient being compelled to lie down.

The best remedies for hemoptysis are rest and opium. Turpentine comes next. Local chest pains may be relieved by blisters or sinapisms; or by strapping the chest if the pains be due to pleurisy. Dry cupping often relieves the dyspnea.

Neither the treatment by antiseptic inhalations, by hypodermic injections of the same substances, nor that by injecting cavities through the chest walls or through laryngeal or tracheal canulæ, have been followed by satisfactory results.

As to the effects of climate, he believes the first essential to be purity of the air. To this mainly is the benefit of mountain regions due. Turpentine exhalations convert oxygen into ozone, and the presence of ozone is evidence of atmospheric purity. But direct inhalation of ozone has no power over phthisis.

Some patients thrive in a warm climate, and others in a cool one. The absence of sudden and frequent changes makes a climate beneficial to phthisical invalids.

Patients in whom the process of tissue change needs no hastening, and those with exhausted nervous systems, with overtaxed brains, but who still retain much muscular power, should go to the mountains.

Those who are past middle life, who are incapable of much muscular exercise, and who require stimulation of tissue-change, may go to the seashore.

Patients should not change their location often, as a prolonged residence is necessary to produce the full beneficial effects. All stages of fibroid phthisis are benefited by the high altitudes of Colorado and along the Rocky Mountains. But the enormous monthly and daily range of temperature there is trying.

Catarrhal phthisis is not benefited by high altitudes. Before the stage of consolidation is past, patients are benefited by climatic influences. For these he recommends Asheville, N. C., New Mexico and the Adirondacks.

For patients convalescing from acute pulmonary affections, he prefers Aiken, S. C., Palatka, Enterprise and Gainsville, Fla., Thomasville, Ga., and Nassau.

Tent life in the open air is beneficial for all those who can enjoy such life. A dreary spot will not be very beneficial.

He advocates sanatoria for consumptives; cottages in sheltered spots, in appropriate climates, at a given elevation, where privacy and quiet are possible, and where all shall be supervised by a capable and intelligent physician.

Minnesota has a dry, cool, exhilarating climate.

Southern California, Georgia and South Carolina have a dry, warm atmosphere.

The Bermudas, Bahamas, Florida, Turk's Island, Santa Cruz and St. Thomas have a warm, moist and usually healthy climate.

The extraordinarily dry belt of country running north from San Antonio, Texas, has begun to endanger the supremacy of Florida as a winter health resort for consumptives. This offers some advantages over the mild but humid air of Florida. Nassau, in the Bahamas suits phthisical patients past middle life.

Matanzas, Cuba, has a dry, warm climate, suitable for a winter home for the enfeebled, but not for phthisics. Sea voyages to Australia and New Zealand are recommended for hemorrhagic phthisis.

DAVIS recommends for tall, spare, narrow-chested young persons, a residence from 2500 to 5000 feet above the sea level; with a dry, mild atmosphere, and a dry soil sloping to the south or east. If the patient live much in the open air, with moderate daily exercise and proper feeding, in one to three years there should be a fair respiratory capacity, with a shrinking of the tubercular deposits already existing.

The long continued use of the **lactophosphate of lime**, or of iodide of lime, has produced decided benefit. The addition of a tablespoonful of cod liver oil twice a day, will increase the benefit if it agree with the digestive organs. He regards the lime

phosphates as of peculiar value, as favorably influencing the defective cell formation.

When there is evidently defective digestion, with dry and unhealthy skin, and sluggish bowels, he gives the syrup of the **iodide of calcium**, a teaspoonful after each meal. For cough, he adds to this, half a drachm of the fluid extract of **hops**.

For flatulency and acid eructation after meals, he advises the use of **carbolic acid** before meals, and at bedtime the following pill:

- R Ext. hyoseyami,.....
- Ferri sulphat.,.....
- Ext. aloes,.....ââ gr. j
- Pil. hydrargyri,.....
- Ext. nucis vomicæ,.....ââ gr. ½

M.—ft. pil. no. j.

These cases are liable to hemorrhages in the first stage, when going to high altitudes. When this is the case, a residence in Florida, Georgia, or better still, in the Bermudas, brings great relief and rapid progress towards recovery.

Some cases are better in the steady cold of winter, but are apt to have hemorrhages in summer. These he directs to Colorado, Dakota, or Northern California and Oregon. Some such instances are arrested by the cold dry air of Minnesota.

To those who are comparatively comfortable during the summer but who become worse on the approach of winter, he recommends San Antonio, Texas, Florida or the Bermudas. These cases are often benefited by a sea-voyage. In the second stage the indication is to ward off the inflammatory attacks. When an exacerbation occurs, with fever, soreness, cough, and rapid pulse, the patient must be placed at rest, in pure air, limited to a proper diet, and given mild anodyne expectorants, with emollients to the chest until the soreness disappears.

- R Ammonii chlorid.,.....gr. vj
- Antimon. et potas. tart.,gr. ʒi
- Morphine sulph.,.....gr. ʒi
- Syr. glycyrrhiz.,.....f ʒ j

M. S.—At one dose; to be taken every four to eight hours.

When the active symptoms have abated, and the above is required only night and morning, **cod-liver oil**, the lime

preparations, iodide of iron or quinine should be administered. In hemorrhages, **ergotine** is one of the best remedies. Two to three grains may be given every two to three hours, until the hemorrhage has ceased, and then continued three times a day for some weeks.

The same dose may be taken in the evening if there be night-sweats. In this stage the question of climate and out-door exercise depends on the conditions present in each case, and the extent of the tubercularization.

Many are benefited by residence in a mild dry climate, at a moderate elevation; below 5000 feet. If the patient find a climate in which the tubercular process is arrested and repair is established, he should make his residence in that place for the remainder of his life. For experience has abundantly proved that a return to the locality in which the disease originated is usually followed by the reappearance of the malady. When great destruction of the lung tissue has taken place, it is rare that change of climate is of use.

In the third stage, when a well-marked cavity has formed, but the remaining pulmonary structures are free from disease, a judicious change of climate may conduce to a cure; but in other cases the patient should not be deprived of the comforts of home and sent on a useless quest for an impossible recovery. In this stage the same anodyne, expectorant and tonic medication which was advised in the preceding pages may be continued.

BARTHOLOW speaks very approvingly of the use of **arsenic**, in two drop doses of Fowler's solution, as a prophylactic, and in the incipient stages of phthisis. It should be continued for a long period. Small doses of **alcohol** after meals promote appetite and tissue formation; but the quantity should never exceed an ounce. Whiskey is not antidotal to phthisis, and fibroid lung appears to be produced by chronic alcoholism. Large quantities of alcohol impair digestion and lessen tissue formation.

The utility of **cod-liver oil** in incipient phthisis is very great. A teaspoonful is the usual dose. It is not useful in florid phthisis, or in caseous phthisis, characterized by large deposits, high fever and diarrhea. BERNARD showed that the addition of from twenty to sixty minims of **ether** increases the digestibility

of the oil, by promoting the flow of pancreatic fluid. The oil should be given in emulsions with the calcic phosphates, preferably the **lacto-phosphate**. This author believes that in the carbonate and iodide of ammonium we have agents which have the power to cause softening, absorption and extrusion of the tubular deposits. He gives five grains of either salt four times a day; when a blowing murmur is manifest and the sonority is diminishing. The remedy should be continued for months if improvement be manifested.

For the cough, gargling with a solution of bromide of potassium, painting the fauces with chloral and camphor, and the atomization of a morphine solution, are temporarily beneficial.

FOTHERGILL'S prescription of dilute hydrobromic acid and spirits of chloroform sometimes answers well. **Codeine** is the least objectionable of the opiates. A combination of conium, atropine and strychnine is highly efficient as a remedy for cough, night sweats and reflex vomiting. **Picrotoxine** allays the vomiting and has an anhydrotic effect. The faucial irritation may be relieved by sucking candy, or by an effort of the will. For the fever the first remedy is **rest**. His estimate of the value of **quinine** and his method of using it corresponds to that of LOOMIS.

For the sweats he gives **atropine**, gr. $\frac{1}{60}$, at bed time, or gr. $\frac{1}{200}$ thrice daily. He thinks this drug has specific beneficial properties in phthisis, apart from its effect in restraining the sweating. **Pilocarpine** is sometimes remarkably beneficial, but oftener fails.

For the laryngeal symptoms, **nitrate of silver**, carbolic acid or iodoform, is to be applied directly, or by the atomizer. By the latter method the most popular remedies are salt, chlorate of potassium, muriate of ammonia, tannic acid and tar water; and lately, the benzoate of soda.

For the diarrhea he recommends—

R. Liq. potas. arsenit.,.....f 3 ij
Tinct. opii,.....f 3 x

M. S.—Twelve drops as needed.

For the arsenic, f 3 xv of aromatic sulphuric acid may be substituted, and the dose increased to twenty-five drops. Frequent changes are necessary.

ROBERTS mentions among vehicles for the administration of **cod-liver oil**, the bitter or acid tonic mixtures usually given at the same time, tincture of iron, syrup of the phosphate or iodide of iron, milk, orange wine, frothy malt liquors, or cold brandy and water. If the oil cause sickness it may be given with lime-water and milk. For children it may be made into an emulsion as is done at the Brompton Hospital:—

R	Ol. morrhue,	f 3	vj
	Liq. potassæ,	℥	xl
	Liq. ammoniæ fort.,	℥	ij
	Ol. cassiæ,	℥	j
	Syrupi,	f 3	ij

Dose.—Two teaspoonfuls.

Small doses of **strychnine** prevent the nauseating effects of the oil. The quality should be of the best. A good pale oil generally answers best. Inunction is advantageous with children.

Local stimulants to the chest are decidedly useful, such as mustard, iodine, flying blisters or croton oil. For acute exacerbations poultices are often required. For the pyrexia, **quinine** and digitalis, cold baths and sponging, may be used. Alcohol is required for exhaustion.

For night-sweats the chief remedies are **oxide of zinc**, gr. ij-v, at bedtime, with belladonna or morphine; or a full dose of quinine or gallic acid.

Pains in the chest are relieved by wearing some anodyne or warm plaster, or by strapping.

Cough requires attention to the throat, astringent gargles or lozenges, or the local application of tannin. For irritable cough we may choose from the following list: opium, morphine, codeine, chloral, croton-chloral, bromide of ammonium, conium, belladonna, and chlorodyne. Gelsemium has been recommended. Anodyne inhalations are serviceable, especially when the larynx is affected. Antiseptic inhalations are useful when the expectoration is fetid. For the sick stomach, strychnine or koumiss has been found beneficial.

For the diarrhea, he uses carbonate of **bismuth**, gr. x, with Dover's powder, gr. v, or enemata of starch and laudanum.

When patients cannot resort to the climate which is considered advisable, they should keep in-doors at night and in bad

weather, and avoid every cause of cold. The judicious use of a **respirator** is advisable. They should allow the beard and moustache to grow.

Antiseptic treatment is now very popular. Benzoate of soda, carbolic acid and the sulpho-carbolates are given internally. The air breathed may be impregnated with the vapor of these, or of creasote, tar, turpentine, or iodine. By direct inhalation the same agents are used, as well as thymol, eucalyptol, camphor, terebene, oleum pini sylvestris, chlorine, tincture of benzoin, and sulphurous acid. Several of these may be combined or in some cases mixed with ether or spirits of chloroform.

When antiseptic treatment is practiced judiciously, and other essential measures are not neglected, it may undoubtedly lead to highly beneficial results. Patients should be warned against swallowing their sputa, and that which is expectorated should be immediately disinfected or destroyed.

BENNETT warns us against taking the patient's word as to the appetite; as the peculiar hopefulness exhibited in this disease leads the sufferer to speak of a constant improvement, while rapidly nearing the grave.

The diet should be generous, with plenty of animal substances, and a glass or two of good sherry after dinner. The tendency to dyspepsia should not be forgotten. Wherever food rich in fat can be taken and tolerated, it will produce good results. In Australia men cure tuberculous lungs by eating fat mutton and galloping about on horseback. In America men eat the marrow of buffalo bones until they are strong enough to hunt the animal down.

Forty-five years ago Dr. BENNETT introduced **cod-liver oil** into use in the British Islands, and then spoke of it in these words: No remedy so rapidly restores the exhausted powers of the patient, improves nutrition, checks emaciation, stops perspiration, quiets the cough and expectoration, and produces a most favorable influence on the disease.

In treating the symptoms of phthisis, we must beware of giving too many drugs, and thereby disordering the stomach. Repose is essential to the proper performance of the functions of that important viscus.

Ten drops of aromatic spirits of ammonia given every four

hours in a wine-glassful of some bitter infusion, with a little carminative, like tincture of orange or cardamom will give an appetite.

For vomiting he recommends—

R	Naphthæ,.....	3 j
	Tinct. cardamomi comp.,.....	f 3 j
	Mist. camphoræ,.....	f 3 vij

M. S.—A sixth part every four hours.

For the cough and expectoration he does not approve of opium and nauseants; their effect on the stomach outweighing the temporary relief following their use. The application of **nitrate of silver** to the fauces occasionally is of the greatest service.

When tough inspissated sputa indicate that the cavities are cicatrizing, and the patient complains of a sense of constriction, a few drops of **ether** may be given in camphor julep, but all expectorants must be strictly avoided. HARTSHORNE suggests for such cases two or three grains of **ammonium** carbonate in a teaspoonful of syrup of wild cherry.

For pains in the chest BENNETT approves of strapping, fomentations and painting with iodine, but not of local bleeding or stronger counter-irritants. If anodynes be absolutely unavoidable, he gives **chlorodyne** or **chloral** the preference.

For diarrhea, occurring early in the disease, he gives the mildest combinations of chalk, aromatics and antacids. In advanced phthisis, the stronger astringents with opium are indicated.

For hemoptysis he recommends absolute quietude; but has never seen unquestioned benefit result from the internal use of the so-called hemostatics. Sometimes the bleeding will be found to arise in the pharynx or larynx, and will then be relieved by the local use of **nitrate of silver**.

The minutiae of avoidance of draughts, using extra coverings when needed, changing the shoes when wet, riding with the back to the horses, etc., will prevent much irritation, cough and suffering. For febrile attacks he gives the saline diuretics.

FOSTER gives very strong testimony to the value of the addition of ether to cod liver oil. He gives fifteen minims of pure

ether with two drachms of oil, flavored with oil of lemon and glycerine; or else the oil alone and the following mixture a few minutes before or after it:

R	Potass. bicarb.,.....	3 ij
	Acid. hydrocyanici dil.,.....	℥ xvj
	Sp. etheris,.....	f 3 ij
	Aquæ, q. s. ad.	f 3 viij

M. S.—Two tablespoonsful three times daily.

WILLIAMS treats the fever by giving large doses of quinine, salicine, gr. x, and salicylate of soda, gr. xx, every four hours, if the pyrexia be considerable. If it but slightly exceeds 100° , he gives Fowler's solution, in doses of two to five drops, thrice daily. If these remedies fail, he uses cold compresses, sponging with vinegar and water, wet packs or gradually cooled baths.

When the cough is frequent and expectoration difficult, with active inflammatory action going on, he gives an effervescent saline, with small doses of opium and antimony, two to three times at night. **Tar** is of use in reducing profuse expectoration. Inhalations of iodine, **benzoin**, carbolic acid, creasote, lard and turpentine, are useful, if the expectoration be offensive or require stimulation. When the cough is convulsive and dry, inhalations of **chloroform**, conium or hops may be substituted.

Diarrhea, when due to dyspepsia, requires **mercurial** purgatives with soda or lime-water. When excessive, it may be checked by the vegetable astringents and bismuth. When due to ulceration, he prefers **sulphate of copper**, gr. $\frac{1}{4}$ to $\frac{1}{2}$, with opium, gr. j, every four hours. If the stomach be irritable, opiate enemata afford relief. In very obstinate cases, **tannic acid**, gr. v, or the same quantity of acetate of lead, may be added to each enema.

For the dyspnea he recommends diffusible stimulants; ether and ammonia. Pneumothorax requires opium, strapping or aspiration of the chest.

Bed-sores may be prevented by the use of a water-bed, and of spirituous lotions. If a sore forms, it is best to protect it from friction by circular cushions or felt plaster, and paint the raw surface with collodion.

As to the effects of climate, his records show the greatest

benefit from **sea-voyages**, the next from Egypt. In catarrhal phthisis Madeira and the Blue Hills of Jamaica, are advisable.

Dry, stimulating marine climates, like Algiers, are recommended for phthisis of inflammatory origin. Where stimulation is undesirable, as in patients of excitable temperaments, or irritable stomachs, the very dry inland climates, like Egypt or South Africa, are to be preferred.

Sea-voyages are indicated in hemorrhagic phthisis, where the patient's strength is unequal to much exercise, and where he or she has suffered from close confinement in a crowded city. High altitudes are suitable to cases with only limited lesions, fair powers of circulation, and able to take exercise; and in these a complete arrest of the disease may be confidently predicted.

RUEHLE says, in speaking of the prophylaxis of consumption: "Would that the study of classic antiquity, especially of that model people the Greeks, might at least induce us to imitate them in their gymnastic exercises and their out-door life, so far as our climate permits!"

The severe gymnastic exercises, on the cross and parallel bars are apt to over tax the imperfect powers of respiration. More serviceable are out-door exercises, with running and singing in particular, since trained singers rarely become consumptive. The extirpation of enlarged lymphatic glands, when accessible, may be recommended.

In the treatment of disease of the apex, the **carbonate of soda** may be given, with infusion of digitalis if there be much fever. When the inflammatory symptoms abate, local counter-irritation may be employed.

Respiratory exercises may now be employed to expand the aerated parenchyma between the foci, and advantage will be derived from the inhalation of **compressed air**.

When we have to deal with phthisis proper, the indications for treatment are different.

Carbonate of soda may be given in milk. Lime-water is employed by inhalation to modify the bronchial affection. The action of fats improves the nutrition of the affected vessels so as to limit the tuberculous formation. He prefers the extract of **cinchona** to quinine, believing that this drug is possessed of

virtues not residing exclusively in the alkaloids or in the tannic acid. **Malt extract** is to be commended. For the fever, he relies on diet and rest, reserving digitalis and quinine for very high temperatures.

TANNER thinks the irritation of fistula-in-ano is much more injurious than the operation for its relief. But ALLINGHAM is rather dubious about the propriety of operating, and only does so in selected cases.

TANNER remarks further that only mischief can result from the use of arsenic, phosphate of lime, oxygen inhalations, bleeding, etc. The use of naphtha has been undeservedly praised, since it more frequently does harm than good.

YEO recommends antiseptic inhalations very highly, basing his good opinion partly on the favorable results reported by LEMAIRE.

DA COSTA uses the following formula :—

R	Ol. morrhue,		f 3 j
	Aq. menthæ pip.,		f 3 ss
	Tinct. aurantii,		f 3 ss
	Mist. acaciæ,		f 3 iijss
	Ol. gaultheriæ,		℥ x

M. S.—A dessertspoonful three times a day.

Another method is to pour into a tumbler any preferred syrup (orgeat or sarsaparilla is best), and fill with carbonic acid water. While still foaming, add a tablespoonful of the oil. It is astonishing how well the taste is disguised in this manner. Less than a tablespoonful of oil is not advisable.

HILLER made extensive trials of the various germicides by inhalation, by spray, by subcutaneous injection, and by the mouth. Whatever the drug or the method of administration, the tubercular process was not checked, nor did the bacilli disappear from the sputa. Corrosive sublimate, iodoform, bromine, ethylic alcohol, methylic alcohol, sulphuretted hydrogen, arsenious acid, boric acid, and salicylic acid were tried. Of these, the first named

gave the best results, used hypodermically. The majority could not endure the treatment; of the balance, some improved but none recovered. In advanced phthisis death was hastened.

ALBRECHT claims to have prolonged the lives of phthisical patients by inhalations of pure **oxygen**. He says that the loss of weight ceased, and the bacilli in the sputa became less numerous. Guinea-pigs inoculated with tubercle lived six months when the oxygen inhalations were used, and only four months when this remedy was withheld.

WARREN recommends the following inhalation:—

R Thymol,.....gr. viij
Sodii borat.,.....3 v
Glycerini,.....f 3 x
Aq. camphoræ,.....f 3 ijs
Aq. picis,.....f 3 vij

M. S.—To be used with the atomizer.

Among recent writers, PEPPER has revived the old method of treating pulmonary deposits and cavities by injecting various substances of supposed curative power, through the chest-walls into the disease centers. Although like most novelties, the method has found advocates, the results have not up to the present elicited much enthusiasm.

It is difficult to see how any other result than HELLER's, could have been expected from the hypodermic use of corrosive sublimate. What curative effect was to be derived from the injection of the fiftieth of a grain of this most irritating drug into the tissues at a distance from the disease foci is not known to the authors.

BEVERLY ROBINSON has recently written favorably of the system of forced feeding, known as **gavage**. The patient is fed at stated intervals with highly nutritious and artificially digested food, administered by means of a stomach tube. It is said that a much larger quantity of food will be taken by this means than by the ordinary manner, and that nausea and a distaste for food will be avoided.

There is much to be said in favor of this method, and we

believe it will prove useful in some cases. But the necessity of feeding frequently, and of having skilled attendants to use the tube, will confine its use to wealthy persons. The use of respirators, impregnated with antiseptic substances and worn constantly has also received the sanction of high authority; notwithstanding the fact that the medicinal substances used cannot possibly be inhaled in sufficient amounts to exert a true germicidal action.

We have very many times proved the value of NIEMEYER'S celebrated pill, which we give as follows:

R. Quininæ sulph.,.....Ḑ j-Ḑ ij
 Digitalis pulv.,.....gr. x-xx
 Opii pulv.,.....
 Ipecac. pulv.,.....āā gr. v
 M. et in pil. no. xx div.
 S.—One to be given every four to eight hours.

These, with *rest in bed*, a diet suited to the patient's digestive ability, and very rarely, the application of iced cloths to the abdomen (see article on acute phthisis), will almost always control the fever. And, first and last, this is the leading indication for treatment. This is the insidious enemy who steals away our patient's strength and flesh, and renders all our efforts nugatory, unless we subdue him. Better to disregard every other symptom, than to treat all others and neglect the fever.

In some recent cases we have obtained remarkably good results from the use of **antipyrin**, in five to ten-grain doses repeated every two hours until three have been taken. It has in one case permanently dissipated the fever when NIEMEYER'S pill failed to do so. The case required but twelve of the ten-grain powders, taken during two weeks, and the patient recovered.

For the cough, we may use inhalations of **soda**, lime-water or borax when the sputa are thick and viscid; hamamelis (a teaspoonful of the distilled extract to an ounce of water), tincture of benzoin, comp. (twenty drops to an ounce of water or of alcohol), or turpentine, when the sputa become profuse; or chloride of ammonium (gr. x to the ounce of water), or tincture of hydrastis (a teaspoonful to two ounces of water) when stimulation is requisite. Kidd, a fashionable London physician, praised the effect of inhalations of iodine. We have not found this agent nearly so valuable

as he affirms. Whatever measures are employed, it is well to refrain from opium. Patients should be taught to look upon the cough as useful in freeing their lungs of a material so dangerous that it must never be swallowed, but must be *burnt* as soon as expectorated. A full understanding of the bacillar theory should be implanted in the minds of both patient and friends. But cough which is not necessary to bring up sputa must be restrained. The application of **cocaine** (gr. v to two drachms of water), or of glycerole of tannin, hamamelis or hydrastis to the pharynx is often needed, when the cough is occasioned by irritation of the fauces.

Lozenges are objectionable because the sugar often causes acidity of the stomach. Yet the presence of some small object in the mouth often does good, by exciting a flow of saliva and keeping the throat moist. Chewing coca leaves, spruce gum, or a small piece of gum arabic often gives relief greater than would be thought possible from such simple measures.

For bronchorrhea we administer Griffith's mixture, lacto-phosphate of lime, eucalyptol, oil of cajeput, copaiba, cubebs, or hydronaphthol; by atomization, by the stomach, or by both methods.

The dyspnea is sometimes very difficult to relieve; but when the fever has been quelled and the bronchial tubes freed from obstructing secretions, the tincture of **quebracho**, given in teaspoonful doses, will generally give relief.

For the night-sweats, the most efficient remedies are **homatropine**, gr. $\frac{1}{100}$ at bedtime, or **agaricine**. The ordinary domestic remedy, **sage**, has scarcely a superior. A cup of the cold infusion may be taken at bed-time. When the sweating is rather the expression of the profound prostration of the patient than of the hectic fever, the lacto-phosphate of lime is an efficient remedy, given to the amount of fifteen grains daily in divided doses. Sponging the skin with vinegar and water, avoidance of feather beds and of over-loading with clothing will assist materially. Nor should we despise the ancient belief that placing a basin of cold water under the bed has its influence for good; for he is but a bungling physician who disdains to array on his side the great power of imagination.

For the diarrhea, if colliquative, the lacto-phosphate of lime

is still our best remedy, with sage. If it be due to the development of tubercular ulcers, the silver salts with bismuth are efficient.

R Argenti oxid.,.....gr. v
Zinci oxid.,.....gr. xl
Bismuth, sub carb.,.....3 iij

M. et in chart, no. xx div.

S.—One every four hours.

For the treatment of hemorrhages, see article on Hemoptysis.

In laryngeal phthisis the resources of the practitioner will be tried. Local applications of **cocaine** or **iodoform** (the former in ten per cent. solutions, the latter in powder, undiluted), will give great relief, and allow the patient to swallow without pain until the local anesthesia has passed off. The objection to this is that it is difficult to apply the remedy to the diseased surface.

A twenty grain to the ounce solution of **nitrate of silver** has a more lasting effect, but this also must be applied by the physician. The greatest relief which the patient can obtain is perhaps derived from the use of **morphine**, gr. x to the ounce of water, with an atomizer. An ethereal solution of iodoform may also be used in the same manner.

For the dyspepsia and adynamia we must regulate the diet with the utmost care. We insert here the substance of an article from the pen of LOOMIS which recently appeared in the *Journal of Reconstructives*:

He distinguishes between patients under thirty years of age, and those who are over forty. For the first class the basis of dietetic treatment must be the hydrocarbons and the phosphates. They are often the curative agents. In the second class the albuminoids constitute the principal food. Fat is readily taken by the young, but not by the old.

In selecting special articles for either class we must further consider the stage of the disease, as regards the digestive power. The first stage covers the period when digestion and appetite are still unaffected; the second begins with the commencement of septic infection, and is marked by fever and gastric irritability. The third stage begins when the stomach refuses solid food, and ends with the death of the patient.

Systematic dieting should begin at the first suspicion of phthisis. Young patients should drink only milk; two to four times daily. They should eat meat, butter and cream freely. Other articles should be taken sparingly, simply to avoid monotony. Large amounts of cod liver oil should be used, and the phosphates in special preparations. Patients over forty should take two or three pounds of meat, four quarts of milk and four eggs, in twenty-four hours.

In the second stage, a change is required in the way of preparing the food, rather than in its nature. Food must be given in fine division and prepared in the most palatable manner. Beef may be scraped or chopped, all coarse fibre being removed (Salisbury steak). Milk may be taken raw, boiled, cooked in custard, curdled, or shook with cracked ice and a little salt. Koumiss may replace milk, and peptonoids of beef and milk will relieve the digestive organs. Cod liver oil will require emulsification; especially with pepsin and quinine.

In the third stage, when the indication is only to prolong life, the forced diet must be abandoned. Smaller quantities must be given at shorter intervals, and the food should be artificially digested.

Artificial digestants should be used from the first. Thirty grains of pepsin with thirty grains of muriatic acid should be given directly after eating, and fifteen grains of pancreatin one hour after taking fat. If starches be not digested, diastase (malt extract) should be given with or after the meal.

The following rules are formulated:

1. Three full meals should be taken, six hours apart, with three light lunches.
2. No more food should be taken at one time than can be digested easily and fully in the time.
3. Food should never be taken when the patient is fatigued or worried. Lying down for half an hour before eating aids digestion.
4. Each meal should consist of a single article, or of such as occupy the same time for digestion.
5. Each meal should consist wholly of food digested in the stomach or intestines, and these two classes should alternate.

6. At first little fluid should be taken at meals; later the use of solid food should be continued as long as possible.

7. When food excites cough, or cough causes vomiting, the meal must be delayed till the cough ceases, or a sedative must be given. In case every attempt at eating causes nausea, vomiting, or cough, feed through the stomach tube.

8. Exercise should be continued as long as possible, and later passive exercise should be substituted.

No greater test can be made of a physician's skill than in his attempt to regulate the diet of phthisis. However carefully this is done, it will be found necessary to change almost daily, as the patient quickly tires of any one article. No author with whose writings we are conversant mentions the meats prepared with vinegar, and yet we have known pig's feet, tripe, lamb's tongues and other pickled meats to agree with patients, after every other form of solid food was rejected.

It is best to make out a regular bill of fare, not allowing any article to appear more than once a week, and introducing novelties constantly. Moreover, it is wise to keep the patient in ignorance of what she is going to get, until the meal is set before her.

The suggestion of NIEMEYER that an emulsion of cod liver oil and malt extract should be given, is not a good one; as the oil is best administered half an hour after meals, while malt extract is only active in an alkaline condition of the stomach, and hence is most useful given before meals.

The brilliant suggestion of CANTANI, of introducing the **bacterium termo** into the lungs as an adversary of the tubercle bacillus, deserves mention mainly because there seems a disposition on the part of too enthusiastic bacteriophiles to accept the proposition without first calmly considering its merits. Two things ought to be decisively settled before such a method is generally adopted: first, whether the bacterium termo is capable of destroying the tubercle bacillus; second, whether the first named micro-organism can with safety be introduced into the human lung.

The first question should not be difficult to settle. Injections

of pure-cultures of bacterium termo into the lungs of tuberculous animals can easily be made; and *should* be made before the human subject is used for experiment. The second proposition has in our case been settled by a singular accident which happened to a patient, by which his respiratory tract became peopled with bacterium termo. The result was a bronchorrhea which still resists all efforts to cure, and in which the sputa consist of a pure-culture of bacterium termo. The patient is now in Texas, in quest of health.

Far more in accordance with the true interpretation of the modern germ theory, and with the experience of every age and country in the treatment of phthisis, is the application of the remarkable observations which are summarized in the "Battle of the Leucocytes and the Bacteria." In other words, to strengthen the forces of the system in their efforts to throw off the disease, is the task laid down for us by clinical observation and by modern science. As to the effects of drinking warm blood, the most apt illustration we have ever heard, came from one of our patients, who said: "I really believe it would have cured me, but I became too weak to go to the slaughter house after it any longer."

It is said that many years ago, the faculty of Sicily obtained the passage of a decree which compelled the isolation of phthisical cases; while the houses in which such cases occurred were vacated for one year, and thoroughly cleansed before being again occupied. In the course of fifty years this law fell into disuse—because there were no more cases of phthisis.

One has but to open his eyes to see the evidences of the communicability of phthisis; and the propriety of compelling consumptives to sleep alone, and to destroy every particle of their sputa cannot be questioned.

PLEURISY.

FRAENTZEL animadverts in forcible terms against the expectant treatment of this affection. The antiphlogistic method of our fathers meets his full approbation.

In the beginning he generally applies eight to twelve cups, or leeches in the case of children. When there is very high fever

and very rapidly increasing effusion he employs **venesection** to the extent of six to ten ounces.

To this he usually adds the administration of a grain each of **digitalis** and **calomel**, until symptoms of salivation, decided lowering of the pulse, or abatement of the fever occur. If severe gastric complications co-exist, if the tongue be thickly furred, if the appetite fail, or if diarrhea be present, these drugs are contra-indicated, and must be replaced by **nitre**. This, or acetate of potassa, may be used from the outset in mild cases.

If mercury cannot be given by the stomach, he advises the inunction of mercurial ointment. Fifteen grains are to be rubbed into the skin every two hours, day and night, until the symptoms of salivation appear.

If it be deemed undesirable to abstract more blood, dry cupping and blisters are advisable. The latter should remain but three hours. In sensitive persons, **sinapisms** may be substituted.

These applications may be made from the first when the attack is mild. They may be used continuously when the disease becomes chronic, or occasional chest pains continue. In this case, however, flying blisters are best; or we may paint the skin with **iodine**. The use of **cold** is not advisable, because it brings on fits of coughing. But after the removal of the fluid, he applies an ice-bladder over the wound for a day or two.

Large doses of **quinine** can hardly have any good effect on the pleurisy. The administration of **drastics** is most successful, especially when the fever begins to decline.

Emetics and antimony have been rightly discarded.

Severe pain may be relieved by dry or wet cups, by a blister, **sinapism**, rubbing in warm oil, with or without hyoseyamus, and by covering the side with cotton wool. If these fail, we may apply warm bandages, or compresses, which may be renewed every eight hours.

When the dyspnea is caused by the pain, it will disappear with the latter. But if it be due to the effusion, we must think of operative measures. We must never give opiates in acute pleurisy for the dyspnea and in the chronic form the dyspnea is apt to be aggravated by this drug. Even for sleeplessness it must be given cautiously. But if the fever and dyspnea are not enhanced

by opium, the whole course of the attack is favorably influenced by the rest afforded. Insomnia may sometimes be alleviated by putting the patient in a cool, quiet room, and taking care to have the bowels open every evening.

If the cough be very severe, we should give **hydrocyanic acid** or hyoscyamus. If either should fail, give **morphine**, hypodermically.

As long as the fever lasts, the patient must be kept in bed and fed on milk and broth. When the fever subsides, eggs, white bread and stewed fruits may be added. If the effusion become purulent, or if the pleurisy be secondary, meat and wine must be given in spite of the fever. If the fever have quite disappeared and an effusion remain, we may give the diuretics, though they are rarely effectual unless combined with tonics. Decoction of **cinchona** with acetate of potassa forms a good combination. But if the fever reappear, this must be stopped. Another useful combination is a pill of muriate of quinine and squill, one grain each, given three times daily.

He disapproves of the iodide of potassium, and also of the **dry diet**, so favorably mentioned by NIEMEYER.

If the effusion be reduced to a minimum, complete restoration may be obtained by a prolonged residence in the higher Alps; because the rarefied air compels the patient to take fuller inspirations. When the effusion is sero-fibrinous, hemorrhagic or purulent, it should be removed; by puncture in case of the former, and by incision when the effusion is purulent. The operation is called for when there is danger to life from suffocation, and also when the effusion is very large; where the dulness is absolute over almost the whole anterior surface of one side. Delay is then dangerous. Removal of the fluid is also indicated when the absorption of a moderate effusion is long delayed; for the absorbents may be inhibited by pressure, or delay may allow caseation of the lung; or a fibrinous capsule may form on the pleura, which will prevent the lung from ever again expanding.

The fluid should be withdrawn by the aspirator, using a very fine, capillary trocar.

Unless to relieve from danger to life, it is best not to aspirate before the end of the third week. The puncture is best made

between the mammary and axillary lines, near the former just above the sixth rib. On the right side, the operation should be done above the fifth rib to avoid the liver. BOWDITCH punctures the posterior wall of the chest, between the ninth and eleventh ribs. The best position for the patient is the semi-recumbent.

Great care must be exercised to avoid the slightest entrance of air. Not more than 1500 cubic centimetres (50 ounces) should be removed at once.

If the pleuritic effusion rise continuously after paracentesis, with high fever, it is apt to be purulent or hemorrhagic. The latter is usually due to tubercular disease. In the case of empyema, this author prefers the operation by incision, if a single aspiration has confirmed the diagnosis, removed 50 ounces of pus, and has yet failed to cure.

The incision should be made in the same space as the puncture, midway between the ribs; and drainage canulæ introduced.

LOOMIS says that the only remedy which seems to have any control over acute pleurisy is **opium**. Bleeding does not give any more marked relief than a hypodermic of **morphine**, and is otherwise very objectionable.

All that is necessary in ordinary cases is to put the patient in bed. The room should be well ventilated and kept steadily at 65° F. The patient may lie at ease, must not talk, nor move unnecessarily, and must have nourishing food but no stimulants. He may have a few leeches to relieve pain, if he be strong enough. After the first week the morphine may be discontinued, and the patient may sit up. He can resume his occupation, if not too laborious, in three weeks. Some pain will be felt after active exertion. If anemia persist, the syrup of **iodide of iron** should be given in drachm doses, three or four times a day. Counter-irritation is rarely of service.

The **constant current** sometimes gives speedy relief to pains persisting after recovery.

In sub-acute pleurisy with effusion, the main object is to remove the fluid as soon as possible, and at the same time to sustain the strength. All the evacuants, hydragogues, diuretics and diaphoretics he lays aside as useless. The most powerful remedial agent in his hands is the **iodide of iron**. With this he

gives the largest amount of the most nutritious food; and alcoholic stimulants.

In any case, where the fluid remains stationary for one week, or is increasing after the cavity has become half filled, or especially when it is full, there should be no delay in aspirating. He recommends a small needle, and stops the flow when a sense of constriction about the chest is felt. In a few days the operation may be repeated.

In empyema, he aspirates with a large needle, and removes but a small quantity of the pus. In three to six days the operation is repeated, a little larger portion being removed. The aspiration must be discontinued the moment dyspnea is felt. If the treatment be prosperous, the fluid will at each removal appear thinner and less purulent, and the chest-wall will retract. If the fluid become thicker and offensive, a permanent opening should at once be made. In empyema with pyemia or septicemia, also, a free opening should be made, as the accumulation of pus will exceed the amount removed by the aspirator.

The opening should be in the axillary line, in the seventh or eighth intercostal space. A quarter-inch rubber drainage-tube should be introduced and fastened securely. If there be too little space between the ribs, a portion of one may be removed. Double drainage is rarely advisable. He disapproves of washing out the cavity.

The diet must be most nutritious, with moderate stimulation; **iron** and **quinine** are always indicated; cod-liver oil, if tolerated. The patient must be kept in the open air and a change of climate is beneficial. The majority of empyemic children will recover if aspiration be performed early, and often repeated.

In most adults a permanent opening is necessary.

In adhesive pleurisy the most important point is to improve the nutrition. In feeble, broken-down alcoholic cases, cod-liver oil and the hypophosphites are indicated; while in gouty subjects, iron and the mineral acids are preferable. In all cases **corrosive sublimate** in minute doses will prove beneficial. Climatic conditions are very important and as a rule a high altitude with a warm, dry atmosphere, such as that of New Mexico, will be found most favorable.

The best external application to the chest, is the **oleate of mercury**, continued a long time, but avoiding salivation.

DAVIS says that the first indication is to relieve the vascular fullness. For this he advises **venesection** in suitable cases, followed by **veratrum** or **aconite**, given in sufficient doses to obtain a sedative effect before reaction from the bleeding has taken place. To relieve the pain and restlessness, **opium** should be given alternately with the sedative mixture.

R Morphine sulph.,.....gr. $\frac{1}{2}$
 Hydrarg. chlor. mitis,.....gr. j
 Sodii bicarb.,.....gr. v
 Sacch. alb. pulv. q. s.....

M. S. To be taken every three or four hours.

When the skin has become moist and the pulse softer and the local signs are favorably modified, the sedative is given less frequently and the powders replaced by saline laxatives, sufficient to produce a moderately free movement. He then orders,—

R Sp. etheris nitros.,.....
 Liq. ammoniæ acetat.,.....
 Tinct. opii camph.,.....āā f3 ij
 Tinct. digitalis,.....f3 j

M. S.—A teaspoonful every three hours.

A dose of the compound powder of opium, ipecacuanha and nitre may be given at bed-time.

In from three to five days the patient is convalescing, and requires but little more care except to avoid exposure, subsist on mild diet and avoid active exertion until the strength has returned.

To insure success this treatment should be commenced within twelve to eighteen hours from the beginning of the attack.

But if on the second or third day, the pain on full inspiration is still quite sharp, the fever high and the effusion marked, he applies a **blister** to the affected part. In the milder cases the **venesection** may be omitted.

When the case is not seen within the specified time, he advises a saline laxative, and the digitalis mixture given above, with five grains of **iodide of potassium** added to each dose. The blister should be reapplied every four days.

When the effusion causes dyspnea, the aspirator should be used.

PNEUMONIA.

LOOMIS says that any plan of treatment, resorted to indiscriminately, will prove unsatisfactory. Although a large proportion of cases will recover without treatment, yet well directed therapeutics will save lives and hasten recovery. The general condition, and not the local changes, govern the treatment. He discards all cardiac sedatives from venesection down to nitre. They lower the fever, but weaken the heart. Blisters are injurious in the early stages, but may be used in the third stage to hasten resolution. Very severe pain at the onset may be relieved by leeches or poultices, if the patient's strength permit. If great œdema occur, dry cups dispel it, and relieve the dyspnea. The flannel jacket, covered with oiled silk, does not shorten the disease, but is grateful to the patient.

Absolute rest is important. If heart-failure threaten, talking or sitting up in bed must not be allowed. The room should be well-ventilated, and kept at 65° to 70°.

The food should be highly nutritious, and fluid or semi-fluid; such as milk, eggs, and thick broth.

The nervous shock is very great: and for this reason the patient should be brought under the influence of **opium**, by hypodermics, and held there in comfort, until infiltration is complete; usually for four days. The opium should then be discontinued. **Alcohol**, judiciously used, is the most efficient agent to prevent death from heart-failure. In the old and feeble, and in those accustomed to the use of stimulants, this drug may be required from the start. But in no disease is there required so much discretion in the use of stimulants. The quantity required is to be estimated by its effect on the pulse. A frequent, feeble, irregular, intermitting or dicrotic pulse, calls for stimulants. They are usually required after the crisis. Delirium, muscular tremor and subsultus, and critical collapse also call for their free use. He does not look with favor on ammonia, camphor, or musk, and gives digitalis only when renal congestion ensues.

Nor does he favor the use of cold, for the purpose of reducing fever: though cold sponging may be allowed if it give relief.

He gives **quinine** the preference as an antipyretic, believing that this drug is an arterial sedative, that it is a tonic to capillary

circulation, and that it arrests cell-development and checks the amoeboid movement of the white blood cells. He gives ten or fifteen grains at one dose, and objects to larger amounts.

For restlessness or wakefulness in the third stage, he recommends **chloral**. If the cough be distressing he gives five-grain doses of chloral with one-twentieth of a grain of morphine; or twenty-five drops of **chlorodyne**, every two hours. To stimulate expectoration, **senega** and turpentine are useful; but if the sputa be tough, the alkalies should be substituted.

For the relief of the delirium of chronic alcoholism, **anti-mony** and digitalis are recommended by English authorities.

In the first stage of senile pneumonia, an **emetic** of ipecacuanha is given at the "Salpêtrière." Nitrate of potassa and chloride of ammonium are also recommended.

In children the chest should be protected, and the diet regulated; but leeches and blisters should never be employed. Stimulating expectorants are often indicated, and the moderate use of stimulants in feeble children is always required. During convalescence, **iron**, quinine, cod-liver oil, and blood-making wines, should be given. When aseptic elements exist, the **sulphites** are recommended in doses of twenty grains every three hours. But the antiseptic treatment of pneumonia has not yet assumed a definite aspect or been sufficiently tried for any definite statements.

DAVIS claims that a careful examination of the results obtained during the last half century show that in the first stage of the active sthenic grade of pneumonia one prompt and decisive **venesection**, followed by cardiac sedatives, has been followed by the highest ratio of recoveries.

In the same stage of weakly or malarious cases, from three to five grains of **quinine**, given every two or three hours, alternating with a mild cardiac sedative and alterant, will often act as efficiently as bleeding in the first class.

In cases occurring in the conditions which give rise to typhoid, it is more difficult to adjust the remedies. Depletion is injurious and quinine fails. For these cases he orders:

R	Quininæ sulph.,.....	gr. iij
	Hydrarg. chlorid. mitis,.....	gr. j
	Pulv. sanguinarie,.....	gr. ss
	Pulv. glycyrrhizæ,....	gr. j

M. S.—To be given every four hours.

Between these is given—

R Liq. ammonii acetat.,.....f ʒ ij
Tinct. opii camph.,.....f ʒ ij
Tinct. aconiti rad.,.....f ʒ j

M. S.—A teaspoonful every four hours.

A poultice is applied to the affected side. If the skin be hot and dry, it is sponged with milk-warm water. When six powders have been taken, if the bowels have not moved, they should be acted upon by an enema or a mild laxative.

In the exudative stage the poultices should be continued, and sometimes a blister added ; while the following may be given :

R Ammonii chlorid.,.....ʒ iij
Antimonii et potass. tart.,.....gr. ij
Morphinæ sulph.,.....gr. iij
Syr. glycyrrhizæ,.....f ʒ iv

M. S.—A teaspoonful to an adult, every three or four hours, in a little water.

If the urine be scanty, a diuretic mixture like the following may be given alternately with the above:—

R Liq. ammon. acetat.,.... f ʒ j
Sp. etheris nitros.,.....f ʒ j
Tinct. digitalis,.....f ʒ ss

M. S.—A teaspoonful every four hours.

In most cases from three to five grains of quinine may be given with benefit, three times a day, until convalescence. When universal engorgement of the lungs follows the initial chill, with a purplish or leaden hue of the skin, short and hurried breathing, small, frequent and weak pulse, cool extremities and high fever, venesection should be practiced at once. At the same time ten grains of **quinine** should be given every two hours until three doses have been taken, and then repeated every four hours. With this **ergotine** should be alternated, in three grain doses.

But if the venesection fail to obtain more than a few drachms of dark blood, the whole body should be wrapped in a wet pack, and the remedies given as above. When the first crisis has passed, such cases are easily controlled by the usual remedies.

In the last of the second or in the third stages when a quick, weak pulse, short and quick systolic action, a dingy skin, dullness on percussion and abundant mucous râles, thin sputa mixed

with blood, or muco-purulent, expiration short and the mind dull, drowsy or wandering, he applies a blister to the chest, and gives the following:—

R Potassæ chlorat.,.....3 ijss
 Acaciæ pulv.,.....3 iv
 Aquæ,.....f 3 viij

M. S.—A tablespoonful every three hours; with three grains of quinine.

This is alternated with:—

R Liq. ammoniæ acetat.,.....f 3 ij
 Tinct. opii camph.,.....
 Tinct. digital.,.....āā.f 3 j
 Ammonii carb.,.....3 ij

M. S.—A teaspoonful, diluted with one ounce of sweetened water.

At the same time he orders one or two ounces of milk and a tablespoonful of strong coffee to be given every two hours.

BARTHOLOW affirms that the expectant plan is greatly more successful than that by blood-letting and tartar emetic. During the first stage he gives a scruple of **quinine** and half a grain of morphine; applies leeches or cups to the side, and administers two drops of tincture of aconite root every two hours. A large sinapism should be applied to the chest, and the feet immersed in a hot mustard foot bath. When the quinine has been absorbed, an active purgative should be given.

To lessen the viscosity of the exudation he gives five to ten grains of **carbonate of ammonia** in a tablespoonful of the spirit of the acetate, every three hours. This should be continued up to the crisis.

As soon as consolidation has been completed, all arterial sedatives must be laid aside. The use of antipyretics then becomes necessary. The author quotes JUERGENSEN's remarks on the use of **cold baths**, but does not express any opinion upon the measure. Next to the bath, **quinine** is most useful, in doses of twenty grains every four hours, until the temperature is reduced to a proper point.

If there be much depression, quinine may be given during the stage of red hepatization, in doses of three grains every three hours; and suitable amounts of stimulants administered—half to

an ounce of **whisky** every three hours. When the crisis approaches, the utmost care is necessary; and suitable aliment and stimulants may then save life. He speaks emphatically on the evil effects of cardiac sedatives during this stage.

The immoderate use of stimulants is no less to be avoided; these are needed in full doses in inebriates at crisis, and when the stage of purulent transformation comes on with weakness and delirium.

Protracted wakefulness and delirium demand **chloral**; fifteen grains at night, and ten grains more in two to four hours if required.

Aliment must be administered carefully from the beginning.

Beef-juice, milk, egg-flips, wine-whey, chicken or mutton broth, should be given every three hours. When the crisis occurs, **a blister** is very useful. During red hepatization a flannel jacket is useful unless the fever is very high. Flying-blisters promote absorption when resolution is imperfect. Iodide of ammonium aids in the same condition.

When prune-juice sputa appear, with weak pulse, and relaxed and sweating skin, turpentine or eucalyptol is extremely useful.

ROBERTS does not approve of blood-letting except for the relief of sudden apnea. Local bleeding may be used to mitigate symptoms. **Tartar-emetic** is decidedly serviceable when the patient is strong and plethoric. One-fourth to one-half a grain every four hours is enough for an adult.

Stimulants are most valuable in certain cases, characterized by delirium, rapid, weak or dicrotic pulse, adynamia, collapse, low nervous symptoms, in the old and feeble and in secondary pneumonias. In all low forms of this disease, the only chance of recovery lies in free stimulation. At the same time full doses of **ammonia** with cinchona, ether, camphor, and musk must be given.

PALMER claims that if the patient be rapidly brought under the influence of **opium**, the disease will be arrested in many cases. A mild cathartic and eliminative will complete the cure. He adds to the opiate ten grains of **quinine**. The latter is repeated every two or three hours, until thirty to sixty grains have been

taken. When treatment is commenced after consolidation has occurred, the quinine should be given without the morphine.

Juergensen, taking strong ground upon the classification of pneumonia as an essential fever, denies the possibility of aborting the disease. Death results principally from failure of the heart; and to avert this is the chief aim of treatment.

To prevent exhaustion of the heart, the fever is the first point of attack for treatment. For this he recommends the **cold bath**, repeated as often as the temperature reaches 104° F. The duration of the bath should depend upon the effect produced, and varies from seven to twenty-five minutes.

For aged or fat persons he prefers a tepid bath of twenty to thirty minutes, from four to seven o'clock in the morning. The effect may be continued by the use of quinine. The bath may be repeated at other hours if necessary.

With young children the wet sheet may be substituted.

In peracute cases, with a temperature above 105° , the baths must be reduced to 41° . Stimulants must be administered in all cases before and after the baths, and when very cold water is used the amount of stimulants should be increased. This is particularly necessary after the bath, because the cooling process continues fifteen minutes or longer, and is apt to produce symptoms of collapse.

In cases of moderate severity he gives one or two tablespoonfuls of red wine before and after the bath, but when there is the slightest sign of heart-failure, he prefers port, Madeira or champagne; one to three tablespoonfuls before, during and after the bath.

With the bath he always gives **quinine**, in a single dose of thirty grains, between 6 and 8 P. M. For children he uses a grain and a half for every year up to five, and after that from seven to fifteen grains. When the fever is intense, seventy-seven grains may be given to an adult, and fifteen grains to a child under one year, always in a single dose. Such doses are only proper when smaller ones have failed.

His formula for its administration is as follows:

R Quininae sulph.,.....gr. **xxx**
 Acid. hydrochlorici, q. s.
 Aquae dest.,.....f3 ijs

M.

If this dose be vomited within half an hour, it should be repeated. But vomiting may usually be prevented by directing the patient to bend forward and allow the saliva to run out of the mouth. Small pieces of ice, swallowed when nausea is first felt, will often prevent the vomiting. Forty-eight hours should be allowed to elapse before a second dose is administered.

If the patient will take food at all, he gives, several times a day, some rare scraped meat with bread and butter, about an hour after the bath. He never forces it upon a patient. In severe cases he insists upon the patient taking, in small doses, a strong bouillon with one or two eggs daily. Milk should also be given in suitable quantities. An adult should take from half to one bottle of light wine daily. He may also have beer.

For pain and sleeplessness he gives one-sixth to one-quarter grain of **morphine** hypodermically. When insomnia results from the coexistence of delirium tremens, he gives **chloral**, up to two drachms, if smaller doses fail. In febrile cases we should always give with this drug a dose of dilute hydrochloric acid, to prevent decomposition of the chloral. Nor should we forget the use of cardiac stimulants; without which, energetic medication should not be adopted. He lays the greatest stress upon the importance of watching for the signs of cardiac weakness. These symptoms, culminating in œdema of the lungs, he does not treat by venesection as NIEMEYER advised, but by the bold administration of stimulants: such as four ounces of port or Madeira, or in severer cases, three grains of camphor every two hours. If the symptoms continue, he gives the camphor every hour and a tablespoonful of strong wine alternately with it. Should sudden and severe collapse ensue, he gives two grains of **musk** with an ounce of champagne, every ten to thirty minutes, until improvement occurs. Musk acts more quickly than camphor, but the effect of the latter is longer felt. It may be given hypodermically, with olive oil.

Even more rapid is the effect of hot **grog**; equal parts of liquor and hot water; a tablespoonful every ten minutes.

As to the propriety of using the baths after such an attack of heart-failure, he says that unless the collapse be extreme, most patients can bear the abstraction of heat very well, provided sufficient care be used in the choice of stimulants and in the

temperature of the baths. Quinine in large doses is tolerated in all cases. It must never be forgotten that the most dangerous enemy to the heart is the fever, and that this may be safely and quickly lowered by bathing.

Collapse is apt to occur suddenly at the crisis or a few days afterwards. These symptoms generally disappear spontaneously, but are sometimes dangerous. They are less apt to occur if the use of a light wine be continued six days after defervescence. The attendants should be taught to look for this occurrence and to administer the stimulants mentioned, when they are needed.

Convalescence should be promoted by the use of abundant albuminous food, by caution in the use of beer and wine, and by the use of iron:

R Ferri redact.,.....3 ij
Ext. cinchonæ,.....3 ss
Pulv. cinnamomi, q. s.....

M. et in pil. no. c div.

S.—Three pills three times daily, ten minutes after eating.

By the adoption of this plan of treatment, JUERGENSEN found that the mortality in 400 cases was one-half what had occurred in a like number treated by other methods. He appends a table showing that in 200 cases treated by him at Kiel, there were 24 deaths. Out of this latter number there was scarcely one in which recovery could reasonably have been hoped, as the disease was the terminus of cancer, gangrene or tubercle; or else was complicated with abortion, delirium tremens, meningitis, acute rheumatism, or old age.

Most of the German physicians speak favorably of the application of **ice-bags** to the chest. ZIEMSEN, NIEMEYER and WEBER favor this measure.

HARTSHORNE says, that six out of ten cases in previously healthy persons, between twenty and fifty years of age, may be reasonably expected to die under the following plan of practice, viz: treating them from the start with twenty grains of quinine daily, half an ounce of whiskey every two hours and a quarter of a grain of morphine every six or eight hours.

If any recover, it is due to the hot poultices applied to the chest.

Eight out of ten of the same cases will recover, if before the third day a few ounces of blood be drawn from the arm, or by leeches; a saline diaphoretic given every two hours, in the most violent cases one-sixteenth to one-twelfth of a grain of tartar emetic every four hours during the first few days, but not allowed to cause gastric distress; a warm poultice being kept over the whole front of the chest till the worst is over.

In our opinion, neither of the above methods would be necessary in such cases. We give scarcely any medicine in ordinary cases, but keep the patient quiet in bed, moisten the air well with steam, carefully attend to feeding, but *not* with raw meat! We prefer hot, rich soups, milk and coffee. The bowels are kept open by the use of citrate of magnesia, and the heart is carefully watched for signs of weakness; and not until they are indicated are stimulants allowed. Hot flannels or poultices are applied to the chest continuously.

In most cases we give no drugs; but if the initial delirium be high, we give small doses of morphine and tartar emetic. It would be difficult to convince us that this combination is not of use. Nor can we assent to the proposition that delirium is always a sign of weakness, and an indication for stimulants. There is such a thing as delirium from high fever, and when it is seen at the beginning of the fever, the cardiac depressants are necessary.

The good effects of the local use of cold are undeniable, but this potent agent should not be used unless the discipline of the sick-room is perfect. On one occasion in which we ordered the application of ice cloths, the patient was seized with wild delirium, sprang out of bed and out of the house, being stark naked, and after being chased through the streets (on a winter night, when the ground was covered with snow) for nearly an hour, was captured and returned to his home. Recovery ensued, at the usual time.

Two years subsequently we were called upon to treat the same patient for a second attack. This time we used hot applications, and quelled the delirium by the use of antimony. The pneumonia passed off in about the same number of days as the preceding attack, but there were no such unpleasant episodes encountered.

In very young infants we must bear testimony to the value of quinine and ammonia in large doses. In old and feeble subjects the same remedies, with highly stimulating food, are indicated. And yet the venerable Dr. CORSON records cases of men in advanced life in whom venesection proved beneficial.

When the fever has disappeared but signs of consolidation persist, the salts of ammonium should be given, together with cod-liver oil and the lacto-phosphate of lime. The application of iodine to the chest, the use of hot salt baths, and of a rich and varied dietary, are indicated. In obstinate cases, in persons predisposed to tuberculosis, the patient should be sent for the winter to Florida.

PROGRESSIVE MUSCULAR ATROPHY.

CLARKE recommends the avoidance of such exciting causes as over-exertion, and exposure to cold and wet. Warm clothing and warm baths are useful. If there be reason to suspect a syphilitic taint, **iodide of potassium** or mercury should be administered.

In other cases **cod-liver oil**, phosphorus, mineral tonics, and arsenic have been found useful. But in the early stages, **galvanism** has proved the most useful of remedies. The current should be applied to the cervical part of the spine. It is questionable whether **blisters** have had a sufficient trial.

BARTHOLOW reports great improvement in a case confined to the left arm, by the injection of a 33 per cent. glycerine solution into the wasting muscles, repeated three times a week. He has also had good results from **galvanism**.

ERR also reports favorably upon the constant current. Vigorous contractions must be induced for about two minutes. A descending current should also be applied to the whole length of the spine, daily, for a minute or two. **Massage**, with the inunction of a fat, is also highly serviceable. Hot douches to the spine and the rubbing wet pack to the affected members are also to be highly commended.

ROBERTS suggests that when the disease is due to excessive use of certain muscles, these must be allowed to rest. Improvement

of the general health is highly important, by means of nutritious diet, tonics, change of air, and gentle regular exercise. Arsenic, iron, strychnine and silver are the chief drugs employed.

DUCHENNE stated that the more a muscle is atrophied and its contractility diminished, the longer it should be subjected to the electric stimulation, the more intense should be the current, and the more rapid its intermissions. As sensibility returns, the applications should be diminished in force and in the frequency of the intermissions.

PSEUDO-HYPERTROPHIC PARALYSIS.

DAVIDSON remarks that the treatment is only available before the hypertrophic symptoms are marked.

DUCHENNE recommends localized faradisation and shampooing, and details two cures resulting.

ERB recommends peripheral faradisation, with galvanization of the spine and of the sympathetic. But the results are not good.

PUERPERAL CONVULSIONS.

GODSON speaks most favorably of the administration of **chloroform**; given freely on the first appearance of the symptoms, and the effect kept up until the fit has subsided.

Chloral, alone or with the bromides, may be given by the mouth, or by the rectum. The hypodermic injection of **morphine** has been frequently found efficacious, notwithstanding the presence of albuminuria.

W. S. STEWART advocates the use of chloral by the rectum, in doses of two drachms.

AMANN says that the first principle is to secure complete narcosis, with chloroform, morphine or chloral. Of the morphine, one-third of a grain should be given subcutaneously.

Venesection should be confined to certain cases, when symptoms of plethora are present, and then only before labor.

PLAYFAIR recommends compression of the carotids, as a temporary expedient.

FORDYCE BARKER gives a quarter-grain dose of **elaterium**, if the patient be comatose. This dose is mixed with butter and placed on the back of the tongue.

DUNCAN says that the treatment is to empty the uterus; but if labor be only commencing, draw off the urine, tide over the crisis by bleeding, by chloroform, and by chloral.

ATKINSON speaks favorably of cold to the head in cases of coma, and advocates venesection in all sthenic cases.

Pilocarpine is growing in favor. One-third of a grain may be injected hypodermically every six hours. If this cannot be obtained, the fluid extract of *jaborandi* may be given in drachm doses.

Venesection is falling into deserved neglect. In one case coming under our notice, where a convulsion had occurred, the patient was bled; but while the blood was flowing another spasm came on.

PUERPERAL FEVER.

GODSON dwells upon the importance of prophylaxis. Every means of communicating septic poison to the patient should be avoided. The genital organs should never be touched without the hands having been first thoroughly rinsed in a solution of pure carbolic acid, one part to twenty. All sponges should be permanently kept in a similar solution; and all syringes, catheters, etc., should be thoroughly soaked in the same before use. A preparation containing a drachm of pure carbolic acid to two and one-half ounces of benzöated lard should be used for lubricating. The utmost care should be shown to avoid leaving the smallest piece of placenta or membrane in the uterus. Subsequently, all washing or syringing of the genitals should be done with a solution of

carbolic acid, one to forty. These preparations should be ordered previous to delivery.

The general treatment varies. At first, anti-phlogistic remedies may be indicated; sometimes **leeches** or blisters. **Vera-trum**, aconite, digitalis or salicylic acid may be useful in lowering the fever. The internal use of **turpentine** has been extolled; and this drug is often very efficacious when applied on hot flannel to the abdomen, or used in enema for tympanites. **Opium** is invariably demanded for the restlessness, pain and wakefulness. Laudanum may be used in poultices. If there be much tenderness and distention, a paste composed of two parts extract of belladonna to one of glycerine may be applied thickly over the abdomen.

Quinine is often of great value as an antipyretic; given in doses of ten to fifteen grains, twice a day. Warburg's tincture may answer still better.

The **antiseptic douche** should never be omitted; and a long vaginal tube should be employed, to insure the fluid passing into the uterus. If used warm, it is often very comforting.

In more chronic cases, with diarrhea, the **tincture of iron** may be given, in thirty minim doses. The frequent administration of nutritious food and stimulants, such as strong beef-tea, milk, eggs, champagne or brandy, is most important. If obstinate vomiting occur, the nutriment must be given by the rectum. The most abundant supply of fresh air must be secured.

Each case must, however, be treated according to the indications present.

PARK gives one-fourth of a grain of nitrate of **pilocarpin**, hypodermically, to cut short the initial chill. One-sixth of a grain of **morphine** may be injected at the same time, if there be localized pain.

For the hyperpyrexia he advises the use of local **cold**, in wet or dry applications. It must be applied with firmness and determination, and accompanied by the use of liquid food and stimulants. For internal use he prefers quinine, and Warburg's tincture, or **salicylate of soda**. He also states that Niemeyer's combination of quinine, digitalis and opium (see Phthisis) is second to none in the treatment of hyperpyrexia.

If great asthenia be present, **alcohol** and opium must be used heroically and methodically.

When peritonitis and tympanites form prominent features, **turpentine** is invaluable.

ATKINSON recommends the extract of **belladonna**, one grain every two hours, with four grains of Dover's powder; continued till the full effects of the drug are produced, and maintained until the urgent symptoms have passed away.

J. MATTHEWS DUNCAN states that an almost sudden cure may ensue by removing the source of the supply of poison. Heroic treatment may be required to reach the remotest part of the genital tract in search of decomposing matter. Mere vaginal or intra-uterine washing may suffice, or the volsella, the finger or the whole hand, may be introduced into the uterus to search for the decomposing substances. It may be necessary to first dilate the cervix. Anesthesia may, in the latter case, be required.

He uses lotions of carbolic acid, one to thirty or forty; tepid or warm. It is necessary to be very gentle, to avoid the introduction of air, and to see that the injected fluid returns freely. If the ora be not open widely, a double current pipe should be employed. The whole proceeding causes little pain. A pint or two of fluid may be used ordinarily, but if the discharges be copious and fetid, the injection should be continued until the fluid comes away colorless and odorless. Care should be taken to avoid wetting the bed. The operation is to be repeated two to four times a day, until the fetor no longer recurs. Then, two daily washings will suffice, and that but for a few days.

The method advised by the last author quoted may be taken as the prevalent treatment of this disease. The occurrence of chills, with evidences of septic infection is held to indicate a thorough cleansing of the utero-vaginal cavity, with antiseptic lotions. It is astonishing to the old physician who, under the same circumstances, has been accustomed to bleed to syncope, to see how the symptoms vanish when a putrid mass is washed or scraped out of the uterine cavity. The antiseptic used is of less consequence than the thoroughness of the cleansing. Thus, BERNARDY obtained excellent results from the use of biniodide of

mercury; PLAYFAIR from Condyl's fluid, and others from thymol, chlorinated soda, etc. Perhaps the most convenient and therefore the best, is that obtained by using the tablets of corrosive sublimate and chloride of ammonium, prepared by John Wyeth & Bro. By means of these tablets a solution of any desired strength can be prepared extemporaneously at any moment.

To the prophylactic rules above mentioned we may add that the utmost cleanliness should be exercised by the obstetrician. No one should act in that capacity who is engaged in dissecting, in holding post-mortems, or in making pathological investigations. Physicians run a great risk who attend women in confinement at the same time that they are in attendance upon cases of septicæmia, of scarlatina, or especially of erysipelas.

When puerperal fever has appeared in a physician's practice, he should perform the most scrupulous disinfection of every article of his clothing, as well as of his person. A case is on record where a physician took every precaution, even having his beard and hair shaved off, but was followed by puerperal fever to every case, until it suddenly occurred to him that he was using a pair of driving gloves which he had put on after attending a septic case, without having first washed his hands.

When symptoms of peritonitis occur after an abdominal section, LAWSON TAIT is accustomed to administer a brisk cathartic. Frequently, when symptoms of this kind begin after a confinement, with some fever, perhaps rigors, anorexia and general discomfort, with some fetor of the uterine discharges, we have given a cathartic; and with the movement of the bowels, a foul smelling lochial mass was discharged from the uterus. Immediate relief ensued.

Many authorities recommend that the vagina shall be washed out with antiseptic lotions, after every case of child-birth. The results of this practice are quite satisfactory in lying-in hospitals; but in private practice it is certainly unnecessary. When one physician can report over three thousand cases of midwifery without a single instance of puerperal fever, the danger from that disease is too remote to warrant him in subjecting all his cases to the use of antiseptic injections: which are by no means harmless themselves. For we have seen recorded cases of mercurial

poisoning from these injections. To this may be added the danger of the antiseptis not being perfectly performed; and the consequent introduction of disease-germs by the very means employed to prevent it. Besides this, the annoyance and disturbance of rest, consequent on the systematic use of these injections is something which must be felt to be appreciated.

PURPURA HEMORRHAGICA.

LOOMIS says that at the present day, rest, a highly nutritious concentrated diet, and moderate stimulation with a nutritive wine are the principal measures employed. **Tinctura ferri perchloridi**,—15 to 20 minims three times a day,—is very efficacious, and should be given in connection with some one of the mineral acids, preferably **sulphuric**. **Ergot**, **turpentine**, **gallic acid**, and other hemostatics are all highly recommended when the hemorrhages become dangerous. When hemorrhage from the lungs occurs, the treatment is the same as in other forms of bronchial hemorrhage. Recently, small doses of mercury have been given, and apparently effected a cure. SHAND has obtained excellent results from **faradisation**.

BARTHOLOW says that the usual treatment consists in the administration of the **mineral acids**, especially the **sulphuric**, and of the preparations of **iron**, especially the tincture of the chloride. With these remedies must be conjoined a suitable dietary, fresh air, sunshine, and moderate exercise. If constipation be present, the most appropriate laxative is **sulphate of magnesia** with dilute sulphuric acid. If hemorrhages that are threatening come on with a strong pulse, flushed face, headache, and excitement, **digitalis**, **quinia**, and **ergotin** are the appropriate medicaments.

If there be weakness and debility, quinine and alcoholic stimulants moderately should be prescribed.

The local means for arresting bleeding consist in **subsulphate of iron**, **tannin**, **alcohol**, **ice**, or may be hot water, which is sometimes more effective than cold. For the after-anemia, iron should be pushed.

SPARKS remarks that in the treatment of purpura, absolute rest in bed is necessary, if the eruption be general; elevation of the legs is advantageous if the disease be confined to them. Any derangement of internal organs must be remedied, if possible. As a rule, **tonics**, especially **quinine** and **iron**, do most good in purpura simplex. **Tinctura ferri per-chloridi** $\mathfrak{m}$ xv—xx, three times a day, is almost a specific in many cases; and the mineral acids, especially **sulphuric acid**, are of great value. The use of purgatives, as recommended by the older writers, especially PLUMBE, has of late fallen into disrepute. In purpura hemorrhagica, with copious bleedings, **ergot** has proved most effectual. It may be given either by the mouth, or else hypodermically, as a solution of **ergotin**. **Turpentine**, in ten minim doses, gallic acid, and other hemostatics also deserve a trial. Locally, cold applications or injections of iced water may be resorted to, in severe epistaxis or hemorrhage from the bowel. Iodide of potassium should not be given in purpura, as it aggravates it in some cases, and has even given rise to serious ulceration.

IMMERMANN doubts the value of the mineral acids, having never obtained any noticeable results from their administration. The vegetable acids are no better. Iron and ergot exert no influence worthy of mention; and lead is rather of problematical value.

The patient should be carefully guarded against mechanical injury, and against anything which tends to excite the action of the heart. The sick-room must be cool, the diet of cold milk, and the drink iced lemonade, in but small quantities. The bowels should be kept open by means of castor oil.

The hemorrhages may be treated as in other hemorrhagic affections. The articular pains require anodyne liniments. After the hemorrhages cease the resultant anemia must receive appropriate treatment. Stimulants are often required, when the weakness is increasing, and the heart threatens to stop. The after treatment requires quinine and iron, and nutritious food. But the iron must not be given until after the hemorrhage has completely disappeared for some days.

WOODBURY has obtained good results from the internal use of **hamamelis**.

IMMERMANN'S absolute contra-indication of iron is fully corroborated by our own experience. Its use has invariably been followed by a renewal of the hemorrhage. In one case we gave all the ordinary astringents a trial, both local and constitutional, but found them valueless. The hemorrhage was finally stopped promptly and permanently by the local use of a four per cent. solution of **cocaine**. In our own experience, as well as WOODBURY'S, the use of quinine has been followed by an outbreak of purpura hemorrhagica.

PUSTULE ; MALIGNANT.

GREENFIELD says that the success of local treatment depends upon the early diagnosis. Excision, cauterization, and if the pimple be small, a crucial incision and the application of pure **carbolic acid** is the course to pursue. The artificial leech may be employed over the incision. When a distinct eschar has formed, free incision followed by the application of carbolic acid is still the best method.

In the internal form, general treatment is alone available. An animal diet should be employed, as well as **quinine** and carbolic acid internally in liberal doses. When death is threatened by pleural effusion, paracentesis should be performed. Collapse requires the free use of **ether**, ammonia or camphor.

BOLLINGER says that the most essential point in the treatment of anthrax is a thorough destruction of the local affection. When infection is suspected, the point implicated should be thoroughly cauterized with pure carbolic acid, caustic potash or fuming nitric acid. Should an actual anthrax carbuncle be present, the treatment is extirpation with the knife, followed by cauterization. In some cases crucial incisions may be substituted, with cauterization, and the flaps being trimmed off. The actual cautery acts less certainly.

This treatment is often successful, even after constitutional

symptoms have appeared. The cauterization may then be repeated several times; while in the earliest stage a single thorough application is sufficient. Antiseptic dressings should be put on, followed by carbolized poultices, or local stimulants such as **camphor** and myrrh. If general symptoms appear, quinine and carbolic acid should be given internally to the amount of half a drachm of quinine and fifteen grains of carbolic acid during each day. When the œdema is considerable and gangrene is threatened, deep incisions should be made to relieve the tension.

We have known of two cases occurring in Philadelphia, in leather dressers who were working upon imported skins of goats or sheep. Both cases proved fatal.

PYEMIA.

CALLENDER recommends cauterization followed by poultices for recent wounds, but the prospect of destroying the poison in suppurating wounds is much less. All sources of irritation must be removed, and fomentations should be applied. The part should be kept clean, and so arranged as to render lodgment of pus impossible. Charcoal or carbolic acid may be added to the poultices. Diffused inflammation should be treated as phlegmonous erysipelas, and as its existence depends upon debility, all weakening measures are inadmissible. If the infection become general, local measures must be limited to simple dressings.

The bowels should be opened by aperients. Eliminants deserve a fair but cautious trial. Saline laxatives with bitartrate of potassa may be ordered. Vapor baths may prove useful sometimes.

Nothing soothes nervous depression as well as **opium**. It should be given in small and frequent doses, and the patient kept well under its influence. If nausea and vomiting supervene, the stomach should be kept quiet, and food be given as concentrated as possible, and frequently repeated. Chloroform, hydrocyanic acid and **ice** sometimes give relief. Dyspnea may be relieved by **digitalis**, and by the use of diuretics. The strength must be supported from the start by the administration of tonics and

stimulants. The same regimen must be continued during convalescence, with change of air, cinchona and iron.

The little that can be done for the local lesions suggests that they should be prevented by the proper treatment of previously existing disease. The strength should be sedulously supported, stimulants should be supplied to those who have been accustomed to their use, rest in bed should be enforced, wounds should be kept surgically clean, and every precaution should be taken to prevent the affection from being carried from one case to another.

HAWARD calls attention to the importance of insuring to surgical cases an abundance of fresh air, and carefully guarding them against exhalations from decaying organic matter. Overcrowding of suppurating cases must be avoided. The careful drainage of wounds is of the greatest importance, for whether germs be admitted or not, an obvious way of preventing decomposition in a wound is to take care that nothing is left therein to decompose.

When pyemia has developed, treatment is of little use. **Sulphurous acid** may be given in the more chronic cases, but the most useful remedy is **quinine**, in full and frequent doses. The secondary abscesses should be opened early. If the affection originate in inflammation of an accessible vein, the vessel should be divided between the heart and the inflamed part. Bedsores must be guarded against.

PYROSIS.

FENWICK says that all sources of gastric irritation should be removed. Astringents, with or without opium, are the most efficacious remedies. They should be given in the intervals between digestion, in order to act directly on the mucous membrane. Lime-water, bismuth, zinc, krameria, logwood or tannin may be preferred, but the silver salts are the most efficacious. Mercury often give the best results.

Occasionally the use of the black oxide of **manganese** is exceedingly beneficial in this affection, but in general the treatment is that of gastric catarrh.

RELAPSING FEVER

LEBERT pays great attention to prophylaxis. He advises airing, whitewashing, sulphur fumigation and disinfection generally, of the apartments and of the beds. Perfect cleanliness and free ventilation are necessary. Soiled clothing should be thrown at once into boiling water, and bedding purified by fumigation with sulphur, and by heat, sun and air. The same precautions should be taken as in the case of cholera.

No drug is known to exercise any direct influence on the course of this disease. Rest in bed, fresh air, cleanliness, fever diet, milk, soups, meat broths, and cooling drinks are the principal things to be attended to. If the patient have an appetite he should have more and better food, and particularly wine. Water is the best drink. The severe headache is best combated by bladders of ice, applied during the paroxysms. The muscular pains may be ameliorated by frictions with oil and **chloroform**. If the pains be severe, hypodermics of **morphine** may be given. In splenic pain, apply cold, or poultices continuously. If weakness increase, give more **wine**; if collapse threaten, the following:—

R	Moschi,.....	3 j
	Ammonii carb.,.....	gr. xxx
	Aq. dest.,.....	fl. 3 v
	Alcohol,.....	fl. 3 ij
	Ol. menth.,.....	gtt. v

M. S.—Thirty drops every hour, in wine or water.

Obstinate diarrhea is to be combated by alum, tannin, nitrate of silver, and opium. If delirium tremens occur, **chloral** may be given in doses of fifteen grains every hour, until two drachms have been taken. If pneumonia occur as a complication, it is to be treated by counter-irritation and the strongest stimulants. Abscesses should be opened early, and treated antiseptically. Epistaxis requires prompt and effectual tamponing. During convalescence, weakly cases require nourishing food and the administration of cinchona and the **lactate of iron**, three to eight grains daily, with gentian.

RIESS claims that the **salicylate of soda** not only reduces the temperature, but, if given in large doses in the intermission,

lessens the severity of the relapse, and sometimes entirely prevents it.

PARRY thought that **quinine** with camphor was of use during the intermission and in early convalescence, in relieving debility and wakefulness.

DAVIS gives as a germicide, **carbolic acid**, with gelsemium and paregoric. If weakness supervene, he substitutes **quinine**, two grains every four hours, alternated with Dover's powder, five grains, and camphor, two grains. Digitalis and acetate of potassium should be given if the urine become scanty. As soon as the intermission occurs, the most nourishing diet should be given, with fifteen grains of sulphite of soda at each meal time, and two grains of iron and quinine at bedtime. He must also be kept quiet. The relapse must be treated like the first attack, with more care in sustaining the strength.

MURCHISON considers uremic poisoning the main cause of death, and for this reason prescribes:—

R Sp. etheris nitros.,.....fl. 3 ij
 Acid. nitrici dil.,.....fl. 3 j
 Syrupi,.....fl. 3 j
 Decoct. hordei,.....O. ij

M. S.—To be taken in twenty-four hours.

If symptoms of jaundice manifest themselves, **hydrochloric acid** should be substituted for the nitric.

HARTSHORNE recommends a mild cathartic at the beginning, and if headache be severe, a few leeches to the nape of the neck. Citrate of potash may be given. After the crisis, **quinine** may be given until the relapse, in moderate doses. But no amount of quinine will prevent the relapse.

REMITTENT FEVER.

ROBERTS bears testimony to the value of the external application of *cold*, by sponging, affusion, packs or bath.

As soon as the remission occurs, **quinine** must be given in

doses of ten to twenty grains every two hours; if the stomach reject this remedy, it must be given by enema. It is to be pushed to the production of cinchonism. Antiphlogistics are to be deprecated. The bowels must be kept open, a good diet given, and stimulants may be required in considerable quantities.

DAVIS gives **aconite** or **veratrum** during the hot stage, in doses of two to four minims of the strong tincture every two hours, and alternates with this, **calomel**, gr. ij, and bicarbonate of soda, gr. v. These remedies are discontinued on the decline of the paroxysm, and a laxative given if necessary.

BARTHOLOW recommends the same general plan as in intermittent fever. The antiperiodic may be given at once, but it is more efficient if given during the sweating stage. Thirty grains of **quinine** should be administered the first morning, twenty the second, fifteen the third, and ten the fourth, each taken at a single dose.

Masked remittents require the largest doses of the antiperiodic.

LOOMIS gives ten to twenty grains of **quinine** every two hours until cinchonism is produced. He then stops the remedy for twenty-four hours. If the symptoms have become worse and typhoid symptoms become manifest, **stimulants** may be demanded in large doses.

When the disease has reached the second week with no evidence of recovery, he gives another course of quinine similar to the one described. If, after a second cinchonism the fever be not arrested, he omits the quinine for a few days and then gives a third course. This method is far better than the continuance of cinchonism.

If the exacerbations be intense, the headache severe and the restlessness and fever not relieved by quinine, **cold** may be employed, as in typhoid fever. **Bromide of potassium**, in full doses, promotes sleep.

For severe vomiting he uses hypodermics of **morphine**. Otherwise the treatment is expectant.

MACLEAN advises a purgative cholagogue, such as a combination of calomel, colocynth and scammony, with an aromatic oil. Quinine may then be given at once. If the fever be high, **aconite** may be administered, in drop doses of the tincture every fifteen minutes until ten or twelve doses have been taken. If the fever rise to 105° – 110° , the patient should be placed in a bath at 90° , which should be cooled down to 83° .

He appears to prefer giving the quinine at the first remission, by the mouth, rectum or skin. The grave and pernicious forms may justify the use of this remedy hypodermically. At least thirty grains should be given during the remission. This must be repeated persistently every day until the fever has been overcome. Vomiting is the troublesome symptom. It may be relieved by ice and by counter-irritation over the epigastrium, but usually subsides with the fever.

On the first sign of collapse, recourse must be had to **stimulants**; white wine whey, champagne, Rhenish, or ale.

The nonsense about not being able to “stand quinine” should be banished. Everybody who lives in malarial districts can and must stand quinine.

RHEUMATIC ARTHRITIS.

SENATOR says shortly that the ordinary rules of hygiene must be observed; and lays special stress on protection against the weather.

Of internal remedies, **iodine** has proved the most useful. Ten drops of the tincture may be given three times a day, gradually increased to a maximum of fifteen grains of iodine daily. Or, iodide of potassium may be given instead. In some weeks the pain and swelling are reduced, and the disease may be stayed for a time. Iodine may also be painted over the affected joints; avoiding over-irritation of the skin.

Galvanism has given some relief. The positive pole of a fifteen-cell battery is applied by a small rheophore to the affected joints, while the negative pole is placed on the fore-arm, with a larger rheophore. Many observers have obtained good results from galvanization of the cervical sympathetic.

Warm baths should be employed as in chronic rheumatism. Active and passive movements should be utilized to maintain mobility of the joints.

BRUCE recommends in the early stages a visit to various baths, or a voyage to the tropics. The climate of Egypt is sometimes beneficial, and advantage may be there taken of the eastern method of treatment by rubbing and baths.

The most valuable internal remedies are **cod-liver oil**, iron and arsenic, continued for months. GARROD recommends the **iodide of iron**.

In the diet, all excess is to be avoided, as well as malt liquors, wines and rich, indigestible dishes. A generous supply of mixed animal and vegetable food will be found most suitable. On the first appearance of the disease, the joints should be painted with iodine, and enveloped in wool or flannel. Guaiacum or the iodides may be used internally in obstinate cases, while the joints are fomented twice daily by wrapping them in flannel and sponging this with water as hot as can be borne. Then the joint should be rubbed with a stimulating liniment, such as turpentine, or with mercurial ointment, cod-liver oil or goose-grease. In very advanced cases, or in aged men, little improvement is to be expected. Anodynes and tonics comprise the proper remedies.

DAVIS has obtained most benefit from rest in bed, the gentle application of electricity, light friction over the affected joints, the use of plain, nutritious food, without much tea or coffee, and the entire prohibition of all alcoholic beverages and of tobacco. With this, he gives the following:—

R Syr. calcii iodidi,..... f ʒ iv
 Syr. calcii oxidi,..... f ʒ ij
 Tinct. stramonii,..... f ʒ ss

M. S.—Shake the vial, and give a teaspoonful four times daily, in a little water.

BARWELL employs the effervescing citrate of ammonia or potassa in those cases which begin with febrile symptoms. He also requires the patient to rest absolutely quiet in bed.

To any joint which is especially painful, leeches may be applied, or a hot solution of bi-carbonate of potassium, about

thirty grains to the ounce of water, for fifteen minutes at a time. Or flannel may be soaked in a weaker solution, applied to the joint, and covered with oiled silk. To this may be added dilute hydrocyanic acid, twenty minims to the ounce, camphor, belladonna, conium or opium; but the potassium is the most valuable ingredient.

In chronic cases, it must be remembered that the disease is essentially one of debility, and all depressing remedies must be avoided. The **bichloride of mercury** in small doses, not long continued, has proved beneficial. **Guaiac** is especially useful when the hands, feet and affected joints, are cold and clammy. It is best combined with ammonia. **Iodine** is very valuable. Iron, quinine, strychnine and arsenic are also of use. Hot alkaline baths are among the most valuable of remedies. He also speaks very favorably of the Woodhall Spa Bromo-iodide springs.

LOOMIS speaks approvingly of tonics, but thinks iodine does more harm than good. Frictions with iodine, mercury and iodoform sometimes relieve. Both the constant and faradic currents are often beneficial.

ERB treated an entire series of cases with electricity, with scarcely any success. He recommends local treatment of the joints, galvanization of the cervical sympathetic and the corresponding nerve-plexuses, perhaps of the cord itself. The general weakness and muscular atrophy, the innutrition of the skin, and the anomalies of perspiration, are best relieved by labile galvanization of the plexus affected, of the principal nerve-trunks, and of the muscles of the extremities. In addition, general faradisation and electrical baths may be tried. The sittings should last fifteen minutes or more.

RHEUMATISM: ACUTE.

SENATOR recommends as prophylactic measures, to avoid sudden violent changes of temperature, to wear wool next to the skin, and to harden the system. When one has been accidentally wet, exercise must be continued until an opportunity occurs to change the clothes. Frictions to the skin are also useful. The expectant

plan was tried by LEBERT, but the consequences proved graver than when active treatment was employed. The antiphlogistic method has also proved inadequate; in which category are included bleeding, mercurials, antimony and nitre.

LEBERT found that **lemon juice** mitigated the fever and shortened the duration of the illness. He gave a tablespoonful eight times a day, gradually increased to twelve times. In thirty-six cases treated by this pleasant agent, the average duration was $28\frac{1}{2}$ days. The risk of complications was not lessened.

FULLER has especially identified himself with the **alkaline** treatment of rheumatism. He found heart disease developed in only nine cases out of 417. The duration of the disease was also shortened. SENATOR himself obtained better results from this than from other methods.

Since the alkalies must be given in very large doses, the **soda** salts must be chosen. Ammonium may inflict injury on the heart or on the nerve centres. He gives five to ten drachms daily of the bicarbonate, acetate, tartrate or citrate of soda, in sugared water, until the urine has become feebly alkaline; which will be on the second or third day. The dose should then be reduced, and increased whenever the urine tends to become acid.

SKODA speaks highly of the influence of **colchicum** upon the inflammatory changes in the joints. He prescribes:—

R Colchicin,..... gr. j
 Aquæ,..... fl. 3 iij
 Alcohol, q. s.

M. F't. solut.

S.—Five drops twice or three times a day until active purging sets in and the pains abate; which will be two or three days.

DAVIES particularly advocates the treatment by **blisters**. Each affected joint is covered with a blister. He claimed that the pains subside within twenty-four hours, together with the fever, and the urine becomes alkaline; but SENATOR obtained very little benefit from the use of blisters, and that little was not always permanent; while strangury and fibrinous cystitis sometimes

followed. He sums up by recommending the alkalies first; while in aged persons they may be replaced by lemon juice.

In all cases the patient must be kept in bed and in an easy position. The temperature of the room should be moderate and the coverings light. A water-bed may be used with advantage. Heavy, flatulent food should be prohibited, but otherwise the diet should not be much restricted. To relieve thirst he recommends the alkaline waters. Those who habitually partake of stimulants should not be wholly deprived of them. In the rare cases characterized by hyperpyrexia, he uses **cold baths**, affusions, or large doses of **quinine**; preferably the amorphous hydrochlorate. Collapse calls for powerful stimulants, such as **camphor**, musk, strong wines and brandy.

In less urgent cases with an evening temperature of over 103°, quinine in doses of fifteen to thirty grains, given towards evening, is alone sufficient to moderate the violence of the disease.

In vigorous persons, when the heart's action is so excited as to indicate threatened endocarditis, **digitalis** may be given in large doses.

As to the local pain, some relief may be obtained by elevating the affected limb. He objects to the local use of heat, but affirms that the application of **ice-bags** is not only harmless, but lessens the duration of the joint affection. Even the energetic use of hydropathy has been followed by good results. KUNZE recommended injections of **carbolic acid** (a syringeful of a one per cent. solution) under the skin over the affected joints. SENATOR employed it in two cases, and was struck with the rapid relief from pain which followed. This was far more certain than that of **chloride of ethylene**, recommended by WUNDERLICH, or **ether**, substituted by NIEMEYER. Painting the joint with carbolized oil is less efficacious. Fixing the limb by plaster bandages has proved very useful, but the method is hard to carry out.

If the treatment fails to relieve wakefulness, he gives:—

R Morphine hydrochlor.,.....gr. j
 Chloral. hydrat.,.....℥ viij
 Aquæ,.....
 Syrupi,.....ââ f ʒ jss

M. S.—One or two tablespoonfuls to be taken at bed time.

For the excessive sweating, he directs sponging with vinegar and water, and gives one-sixtieth to one-thirtieth of a grain of **atropine** daily.

The local use of ice is reserved by him for cases which are not benefited by the other remedies employed. When the intervertebral joints are affected, the severity of the pain may compel us to apply **leeches**, and give **morphine** hypodermically.

Paroxysms of dyspnea and palpitation commonly yield to mustard applied to the epigastrium, and the use of valerian internally.

If the inflammation be slow to leave a joint, absorption may be promoted by leeches, mercurial inunctions, blisters, iodine, warm poultices, and the internal use of **iodide of potassium**.

LONGSTRETH says that the application of dry cups over the lower vertebræ modify the severity of the affection in the legs. He finds moist heat applicable to cases where the intra-articular inflammation is marked, and the capsular ligament resists the expansion of the exudation. He speaks of a strong solution of carbonate of soda, with laudanum, as useful.

Quinine he finds of value only as an antipyretic. The treatment by **salicin** and its derivatives meets his approval; as well as that introduced by DA COSTA.

MACLAGAN introduced into use the salicin group, which, in the form of **salicylate of soda**, constitutes the most popular remedy now in vogue. A scruple of this salt may be given every two hours until the fever has been subdued.

FULLER's remedy was the **bicarbonate of potash**. He directed one ounce of this salt to be taken during each twenty-four hours until the fever is broken. The dose is then lessened to six drachms, in one or two days to half an ounce, and finally to two drachms. An excess of fever must be met by an increase of the alkali.

DA COSTA recommended the **bromide of ammonium**, gr. xx every three hours. He claims that no cases developed cardiac complications while under this treatment.

GARROD used the following combination:—

R	Potas. bicarb.,.....	gr. xxx
	Quininæ sulphat.,.....	gr. v
	Tinct. cardamomi.,.....	f 3 j
	Mucil. acaciæ.,.....	f 3 j
	Aquæ.,.....	f 3 iij

Dissolve the potassa in the water, rub in the quinine and add the other ingredients.

This dose is given every four hours, until the joint affection and fever have abated.

He also recommended the **lithia** salts.

Trimethylamine was brought into use by the Russians, but it is doubtful if it be really a remedy of value.

No remedy has as yet given such good results in preventing heart complications as the **alkalies** recommended by FULLER. But to obtain this physician's success, it is necessary to adopt his method. Most physicians give the alkalies in inefficient doses. We have substituted the carbonate of soda for the potash salt, as we find that the former is more easily borne by the stomach, and that the urine is more readily rendered alkaline than by the use of the bicarbonates. The daily dose may be dissolved in a small pitcher of water, and flavored with a little sugar and lemon-peel.

This may be used as a beverage, the patient taking the whole amount in the day and night. Some prefer to take Vichy or Apollinaris water as a vehicle.

Salicylate of soda is the remedy to be given in very severe cases, where the pain is so great that the most speedy relief is demanded. A scruple of the salt is to be given every two hours until the severity of the fever has abated. It is then to be given less frequently. The objection to this method is that the heart soon begins to show signs of weakness. This may be prevented to some extent by the conjoint administration of **digitalis**, commenced as soon as the fever begins to abate. Though we have never had any unpleasant consequences from this drug, we always watch the condition of the heart when the patient is taking these large doses. Although no other remedy produces as speedy relief as this, yet the disease is never so apt to recur. Hence, in permanency of effect, the salicylates cannot compare with the alkalies.

We have never obtained any but antipyretic effects from the

administration of large doses of **quinine** in this disease. It has no special virtues in the treatment of rheumatism.

Bromide of ammonium certainly shows a decidedly beneficial effect upon acute cases, but not so quickly as the salicylates; while the same weakness of the heart supervenes, even more quickly.

Tincture of iron, in doses of thirty drops to a drachm, every four hours, was introduced by REYNOLDS, who reported good results from its use. We have tried it in several cases, but have never obtained any benefit from its use, even in cases where the iron was otherwise indicated by the anemic condition of the patients.

There is recently a tendency to return to the use of **oil of wintergreen** (from which salicylic acid was originally obtained), and it is given in doses of five to twenty drops every two to four hours. The remedy is efficient; but the patient soon acquires such an unconquerable repugnance to the oil, that it is with difficulty he can be induced to take it in sufficient quantities to be of use.

Very many physicians speak of cases in which **iodide of potassium** accomplished a cure when other remedies failed. This indicates the value of the drug and its true place in the treatment of rheumatism. We limit its use to acute cases which have lasted longer than usual, and threaten to become chronic. In this emergency the iodide will rarely fail to accomplish a cure.

A method undeservedly neglected is the administration of **cathartics**. While we do not give drastics, or such doses as will weaken the patient, we find that he is invariably better after an evacuation of the bowels. In spite of SENATOR's condemnation, and the trouble caused by moving the patient, we find that the relief experienced more than reconciles the patient to the trouble. We prefer the use of Rochelle salts for this purpose.

For the rare cases of hyperpyrexia we have heretofore relied upon the use of cold baths, and ice to the scalp. But the introduction of **antipyrin** has given us another and most efficient agent. Twenty grains may be administered every twenty minutes until three doses have been taken.

RHEUMATISM.—CHRONIC.

BRUCE recommends for the relief of pain, the local use of iodine, blisters, opium, belladonna and chloroform, or friction with stimulating liniments containing camphor, soap, turpentine or acetic acid. Warm fomentations night and morning, with hot water, followed by rubbing, and stimulating liniments under warm rollers, is a most efficacious method of local treatment.

When the patient's means will permit, he should be sent to a warm, equable, sub-tropical climate. A highly nourishing diet should be prescribed, as well as freedom from muscular exertion. Iron and cod-liver oil are the best drugs to improve the general health. The Turkish bath often gives temporary relief.

ROBERTS speaks of the benefit derived from a great variety of baths, hot, cold, vapor, and variously medicated. Good results follow strapping the joint with ammoniac or pitch plaster. The local use of **galvanism** has often been of service.

Internally the **iodide of potassium** is very useful; and this may be combined with quinine. **Tonics** yield the best results.

DAVIS recommends:

R	Potass. acetat.,.....	3 iv
	Ext. phytolacæ fl.,.....	f 3 ij
	Tinct. stramonii,.....	f 3 iv
	Elix. simp.,.....	f 3 jss

M. S.—A teaspoonful every six hours.

Cimicifuga or senecio may be substituted for the phytolacca. The latter is best when diuretics are needed. These remedies must be continued for weeks. For subacute exacerbations he orders ten grains of Dover's powder and three grains of calomel at night, followed by a saline laxative in the morning. For permanent relief we must maintain the healthy action of the eliminative organs. Flannel must be worn next the skin; damp and cold rooms must be avoided; violent exercise and sedentary habits must be alike shunned; the diet should be plain, nutritious, sufficient, and taken with regularity. Alcohol in all forms should be forbidden, as hindering the elimination of the products of tissue-metamorphosis.

Warm alkaline baths may be taken twice a week. When the bowels are costive and the digestion impaired, he prescribes:

R	Ferri sulph.,	gr. xlv
	Ext. colchici acet.,	gr. xxij
	Ext. cannabis Ind.,	gr. xv
	Ext. stramonii,	gr. x
	Ext. aloes,	gr. x

M. ft. mas. et in pil. no. xlv div.

S.—One pill to be given before each meal until the bowels are regular, then gradually discontinued.

If, in addition, the blood be impoverished and the feet cold, he adds two grains of **guaiac** to each pill and omits the colchicum.

DELAFIELD gives **iodide of potassium**, beginning with thirty grains daily, and increasing gradually. With this he uses **mas-sage** of the affected joints. When a skilled manipulator cannot be secured, he substitutes the application of iodine or blisters, long continued.

HARTSHORNE recommends a liniment containing turpentine, oil of sassafras, ammonia and laudanum, diluted with soap liniment. If the pain be considerable, chloroform or aconite liniment is better. Blisters may be applied in bad cases. For rigidity of the joints, great relief is obtained from pouring hot water continuously over the parts.

AITKEN recommends:—

R	Pulv. guaiaci,	ʒ j
	Pulv. rhei,	ʒ ij
	Potass. bitart.,	
	Sulphur. sublim.,	āā ʒ j
	Pulv. myristicæ,	ʒ ij
	Mellis,	lb. j

M. S.—Two large spoonfuls to be taken night and morning.

PHILLIPS speaks highly of **rhus toxicodendron**, especially in cases characterized by nocturnal pain. A tincture may be made by macerating one part of fresh leaves in two parts of alcohol. Of this, $\text{m} \frac{1}{8}$ to $\frac{1}{4}$ may be given.

Other remedies which have been proposed are oil of cajeput, iodoform, petroleum, sassafras, and xanthoxylum.

We have already spoken of the specific value of iodide of potassium. No single drug equals it in utility. When the disease seems disposed to remain permanently in a single joint (generally the knee), the most useful course is to sew around the joint a cap of red flannel, and soak the flannel in **cod-liver oil**. This may be covered with oiled silk; and the supply of oil renewed daily. **Massage** is particularly useful in breaking up the adhesions which are sure to be found around a joint long rheumatic. For the same cases **faradisation** is essential, to restore the disused muscles to their normal condition. Many a joint is supposed to be disabled by rheumatism, which is simply in a state of false ankylosis. Among the American springs which have been found useful, the Gettysburg Katalysine is especially valuable. The Hot Springs of Arkansas, are also popular. But we have more faith in the use of tonics when needed, the iodides, massage, the prompt treatment of every acute exacerbation, and proper hygienic management. The climate of Southern California is the best as yet found on this continent for rheumatic cases. Contrary to the usual belief, very dry climates are unsuited to this disease.

RHEUMATISM: GONORRHEAL.

BRODHURST recommends vigorous treatment in the commencement of the attack. If the fever be high, **purgatives** may be administered, and a small venesection made; while local fomentations are employed, and the joint kept at rest by a gutta-percha splint. He then gives a full dose of Dover's powder, and a Turkish bath. The arthritic pain sometimes ceases while the patient is in the bath. In acute attacks, abstinence from meat, and from fermented and distilled liquors is absolutely necessary. These measures will usually cut the attack short. If the inflammation tend to become chronic, the **iodide of potassium** should be given, up to forty grains daily. Leeches aggravate the symptoms, and induce suppuration in the cellular tissue. In repeated attacks, or in weakly persons, the treatment should be tonic.

When the pain and swelling have subsided, considerable

difficulty may be experienced in restoring mobility to the affected joints. Frictions, shampooing, and forcible flexion under chloroform may be necessary.

BRUCE says the treatment is not very satisfactory. He favors persistence in the efforts to check the urethral discharge. A liniment composed of equal parts of glycerine and extract of belladonna may be applied to the joint.

In acute cases, free purgation should be obtained, followed by salines, alone or with quinine. **Iodide of potassium** may be given, with iron or with alkalies. Mercurials sometimes effect a cure, especially as there is not uncommonly a syphilitic taint.

RICKETS.

SENATOR calls attention to the importance of providing suitable food for the child. Nothing takes the place of the mother's milk. Cow's milk is the best substitute. When the first teeth come through, the mother's milk should be supplemented by some digestible food, such as broth with isinglass, or meat-shavings. When milk proves indigestible he gives the yolk of an egg beaten up with water, milk-sugar and a trace of salt. Next to milk, he places Nestle's milk-food, condensed milk, revalenta Arabica, Liebig's soup, Loefflund's infants' food, and boiled arrow-root. An infant will sometimes do well on a less popular food when the famous ones disagree. Warm or tepid baths, with salt, aromatics or malt, are serviceable. If the dyspnea prevent bathing, we can sponge the body with warm brine, and rub the limbs with spirituous lotions. When there is much sweating about the head, it may be bathed with cold water. The child should be kept out of doors and in the sun as much as possible. It should be shielded against cold by warm clothing, and the immediate change of wet linen.

To prevent deformities, the child should lie on a hard mattress; its head on an annular pillow, with a central opening for the occiput. The child should not be allowed to stand or to walk. When not asleep it should lie on a blanket on the floor, in the sun.

The remedies suitable to the digestive derangement should be

prescribed. **Lime** meets most of the indications at once. From a teaspoonful to a tablespoonful of lime-water may be given several times a day in the milk or broth. The milder preparations of **iron** are to be given, with cinchona or gentian. If the digestion be in good order the chalybeate waters may be prescribed, alone or with milk.

Cod-liver oil cannot be given when the digestive organs are disordered, nor in hot weather. During the colder months it may be given to the amount of a drachm to an ounce daily, with the best effect.

Slight affections of the respiratory organs must be carefully watched.

HENOCH coincides with **SENATOR**, almost precisely, in his methods of treatment. He recommends **hydrochloric acid**, followed by tinct. rhei aquosa or vinosa, ten drops thrice a day, if anorexia, coated tongue, constipation or diarrhea be present. He has never seen any good from the lime salts. The **pneumatic cabinet**, in which children are placed to breathe rarefied air has been recommended to diminish the chest deformity.

EUSTACE SMITH calls attention to the fact that food which is digestible to one child is not digestible to another; hence in every case the diet must be suited to the peculiarities of the individual. Rickety children should at once be weaned, and placed upon the use of milk, with **liquor calcis saccharatus**; fifteen drops to each bottle of milk. Farinaceous food must be given with caution; not more than a teaspoonful in one day to a child under twelve months. Over this age, strong beef gravy, mutton pounded in a mortar, or a mealy boiled potato may be allowed. Castor oil or rhubarb and soda should be given to clear away undigested food, and a little soda with a drop of laudanum and an aromatic water afterwards to remove the offensiveness of the motions. **Citrate of iron** may then be added, and the child placed on the use of **cod-liver oil**. The dose of this should at first be small; fifteen minims, or less if the oil appear in the stools. As convalescence advances, wine of iron, quinine, and **Parrish's food** are all useful. So long as the previous directions are followed, the exact tonic is of little consequence; but the cod-liver oil must

not be omitted. Lime is of little value. A flannel bandage diminishes the tendency to diarrhea, and to chest deformity.

Pepsin should be given with every meal; and no more efficient remedy can be found for the gastric and intestinal disturbances which precede and accompany rickets. In some cases the extract of malt will also prove beneficial. Very often it will be found preferable to rub the body with cod-liver oil, instead of giving it by the stomach. Raw beef will sometimes be found an excellent addition to the diet. The yolk of eggs may be given, if boiled hard and reduced to a powder, or a pulp with milk. Of the iron preparations, the best is the elixir cinchonæ ferrata, which combines phosphate of iron, cinchona, aromatics and, when properly made, French brandy.

But were we confined to a single remedy in the treatment of rickets, we would choose the **hot, salt bath**. We must except the lacto-phosphate of lime from the general condemnation attached to the lime salts; as this has appeared to us of unquestionable utility. It should be given in daily doses of three grains, divided into many portions.

RÖTHELN.

SQUIRE says that rest in bed for three days, and confinement to the house for a week, is almost all that is required. The fever demands no special treatment. Dilute acids may be given for relaxed throat, and cinchona and iron during convalescence.

A few grains of citrate of potassa, or a little aconite, may be given if the fever be higher than usual. If the cough prove troublesome, **ippecacuanha** gives the same relief as in measles.

SCARLET FEVER.

THOMAS advises that all useless articles, carpets, &c., which can collect and retain dust, shall be removed from the room. Thorough ventilation must be obtained in some way. The patient should be kept perfectly clean, and all excretions should be at once disinfected and promptly removed. The linen should be

placed in a solution of chlorinated soda as soon as removed ; and should be thoroughly washed in tubs used for nothing else. Articles of slight value should be burnt. The sweepings of the room should also be burnt. All clothing and other articles used by the attendants should be treated in the same way. The nurses should frequently wash their hands in some disinfecting liquid. Articles which cannot be washed should be exposed to a high degree of heat, and thoroughly aired. It is of the utmost importance to prevent the escape into the room of the desquamating scales ; which may be done by keeping the body clean, or rubbing twice daily with oil.

Convalescents should not be allowed to mingle with the well until desquamation is completed, until the body has been washed and clothed in fresh garments, and the sick-room with its contents thoroughly cleansed and disinfected.

It is desirable that patients should not be congregated in the same room, as the severity of the cases is increased by so doing. The young members of the family should be excluded, as the disposition to scarlet fever materially lessens with each year. All display and useless attendance at funerals should be prohibited.

There are no prophylactics except isolation and disinfection. Nor are there any specifics in the treatment of scarlet fever, the only rational method being based upon the symptoms.

In normal and uncomplicated cases, he keeps the patient in bed until desquamation has ceased. The room must be thoroughly ventilated but draughts avoided. The temperature should be about 59° F., and the patient must not be overloaded with bedding. The body should be sponged several times a day, and the linen frequently changed. Slightly astringent gargles should be used for the sore throat. The patient should be allowed to drink fresh water or lemonade. The diet should be restricted to milk and thin soups at first ; but during the decline of the disease more nourishing food should be allowed. The bowels may be kept open by laxative food or by mild aperients, but not calomel. The urine should be examined daily, both microscopically and chemically. Very high fever necessitates the use of **cold baths**. He believes that since he orders a daily bath, the nephritis occurs less frequently and is of a lighter character.

ZIEMSEN'S baths, in which the water is gradually cooled down, should be used. As the fever sinks, the temperature should be gradually raised; during convalescence the baths should be warm. In mild cases, and when the parents are apprehensive, it is best to use only warm baths.

Intense fever demands, in addition to cold baths, **quinine**, in eight grain doses, two or three times daily; or **digitalis**, in doses of seven to thirty grains daily, according to age.

These measures should also be employed whenever the fever, although not excessive, is unduly prolonged. The increased waste due to high or prolonged fever necessitates frequent and nutritious feeding. HARE recommends frozen beef-tea.

An endeavor should be made to meet the toxic effects of the fever-poison by the use of antizymotics; such as quinine; **carbolic acid**, internally and subcutaneously; sulphocarbolate of soda, fifteen grains to a drachm daily; the hyposulphites, and ozone.

Collapse calls for powerful stimulants; such as camphor, benzoin, musk, ammonia, rum, cognac, strong wines, and cold affusion while in an empty tub or a bath. In desperate cases it may be worth while to practice transfusion of blood. BENNETT reports that by the use of fresh yeast, one to two tablespoonfuls several times a day, he has never lost a case of malignant scarlet fever.

When the eruption is slow in developing, it may be hastened by mustard poultices, or by anointing the skin with lard. The bath frequently brings out the rash. If the fever be moderate, diaphoretics may also be tried. The same measures may be employed when the eruption threatens to fade too soon. But if dangerous symptoms supervene, warm baths, hot douches, mustard poultices, cold packs, cold affusions followed by warm wrappings, and diaphoretics, ammonia and musk, may be employed. LANGENBECK speaks in the highest terms of the use of a hot flat-iron, with a mustard bath, followed by sweating caused by warm wrappings.

Severe brain symptoms are due to fever and yield to active antipyretic measures. Congestion or meningitis demand leeches, ice-bags, and perhaps venesection.

Narcotics are useful in nervous delirium and excitement

without hyperemia of the brain, where improvement does not follow the use of cold.

For moderate sore throat, he uses cold dressings, ice in the mouth, and the use of cleansing mouth washes and gargles. The use of leeches to the neck or **nitrate of silver**, thirty grains to the ounce of water, to the tonsils, is only necessary when these organs are rapidly swelling and threaten suffocation. In older patients the tonsils may be freely scarified.

Gangrene of the throat may be treated by **permanganate of potassium**, fifteen grains to the ounce of water, chlorate of potassa, chlorine water, carbolic acid, one part to two hundred of water, and with cauterization of the ulcerated surfaces. Complicating diphtheria should be treated like simple diphtheria. If it extend to the larynx, tracheotomy offers little hope. In the usual diphtheria, the membrane should be removed mechanically or by lime-water, and astringent and cleansing injections. The nares should be oiled or greased. Stomatitis demands thorough cleansing of the mouth, and timely cauterization of ulcers.

The ear demands care which cannot be postponed till convalescence sets in. The secretion should be carefully removed from the nose and throat by means of douches and gargles; and from the external meatus by injection. The inflation of the middle ear is of great importance. For the pain, leeches may be used, and later, poultices.

Severe conjunctivitis necessitates the use of cold-water dressings. Rupture of the cornea may be prevented by the local use of intense cold, by the use of **atropine**, or by puncture of the cornea. The secretion should be removed if it can be done without much struggling.

Intense cervical infiltration demands **ice**, or cold water dressings, but leeches only in case of necessity. As soon as pus has formed, hot applications should be substituted, and the abscess speedily opened. Chronic infiltration of glands requires the external use of **iodine**. The moment gangrene shows itself, powerful caustics should be used, and carbolic dressings applied. Internally, quinine, acids, stimulants, strong food and wine, are urgently indicated.

Pulmonary complications render the freest ventilation

necessary. Otherwise, and with the avoidance of blood-letting, the treatment is that ordinarily used in the same affections occurring independently.

Rheumatic pains of the joints require anodyne liniments and a supporting bandage.

Hemorrhagic scarlet fever requires the early use of antifebrile and antimiasmatic means, abundant ventilation and quinine. For severe hemorrhages, he uses cold, ergot, tannic acid, and iron. Wine, stimulants and nourishments are all important. When nephritis has set in, its aggravation may be prevented by the continued use of warm baths, and by diaphoretics. But a rapid development of the symptoms calls for **blood letting**, general or local. If diarrhea be not present, **purgatives** may be employed to relieve the kidneys, but diuretics should be avoided. If improvement be not soon manifested, the bleeding should be repeated, or dry cups applied over the kidneys.

If the symptoms increase, hot baths followed by two hours of sweating, will not unfrequently succeed. These measures are contra-indicated in capillary bronchitis, œdema of the lungs, and eclampsia. Vapor or hot air baths may be substituted if the patient be very weak. Mild diuretics may be given in addition. If these measures do not carry off the dropsy, large doses of **iron** may be given.

Uremic convulsions should be treated by venesection, or local bleeding from the forehead, whenever the prodromal headache, vomiting, mild delirium or slight coma, have not been relieved by stimulant baths, diuretics, drastics, cold affusions, and cold to the head and stomach. If the convulsions continue, resort should be had to the inhalation of **chloroform**, to the hypodermic use of **morphine**, and to the compression of the carotids.

DUJARDIN-BEAUMETZ says that inoculations for scarlatina were made by MIGUEL, who used blood taken from the scarlatinous patches. A red circle was produced around the punctures, which disappeared the seventh day. These subjects were proof against scarlatina.

LOOMIS recommends washing the body with carbolized soap. His advice is not to use cold to the skin or antipyretic doses of

quinine, unless the fever rise above 105° F. In all cases the patient is to be sponged frequently with tepid water, to which a saline is to be added if there be intense burning of the skin.

For the throat complications, he prefers cold carbonic acid water, and pieces of ice held in the mouth.

In the advanced stages, with great cervical infiltration, he prefers hot applications rather than cold. Ulcers may be sprayed with carbolic acid, tincture of iron, or chlorate of potash.

In some feeble and nervous cases, stimulants will be demanded early; even from the start. This is in some cases our only reliance.

In the kidney complications, besides cups over the kidneys, hot fomentations, baths and flannels, he gives **digitalis**. If the anasarca do not disappear, he adds **calomel** to this. The patient should be encouraged to drink freely of water. If convulsions do not occur, he gives **morphine** hypodermics.

BARTHOLOW gives tincture of **aconite**, a drop every hour, in the initial fever; or, preferably, tincture of digitalis, one to ten drops every two hours. If the stomach be irritable, and these remedies rejected, he recommends:—

R Tinct. iodi,.....3 ij
Acid. carbolic,.....3 j

M. S.—One drop every two to four hours, in water.

For constipation, he gives one-sixth to one grain of **calomel**; but THOMAS repeatedly warns against giving mercurials in any stage of this disease.

If the eruption be pale and tardy, with feeble circulation, BARTHOLOW gives **belladonna**, two to ten drops of the tincture every two hours; and if this fail, **turpentine**. He approves of cold sponging and inunction with fat; the latter every four hours. Should diarrhea be present with vomiting, he prescribes:—

R Bismuth. subnit.,.....3 j
Acid. carbolic,.....gr. iv
Mucil. acaciæ,.....
Aq. menthæ pip.,.....āā f 3 j

M. S.—A teaspoonful every two to four hours.

For severe throat symptoms he uses wet compresses, hot or

cold. The throat should be frequently gargled with milk and water, or pieces of ice may be allowed to melt in the back of the mouth.

In cases showing profound alterations of the blood, he prefers the combination of iodine and carbolic acid.

DAVIS says that when judiciously used, the cold water treatment will do more to allay excitability, lessen fever, and favor natural molecular changes than can be done by all other remedies. For further correcting secretory derangements in severe anginose cases, he gives three or four alterative doses of **calomel** during the first day, and subsequently the aqueous solution of **iodine**. He carefully avoids all active evacuants. To lessen the severe throat affection, he makes use of bladders full of pounded ice, or cloths wet with an infusion of aconite leaves and chloride of ammonium; made by pouring a quart of boiling water on an ounce of aconite leaves, and half an ounce of the salt. Locally, he uses on the throat a solution of chlorate of potassa with a little hydrochloric acid and belladonna.

When the glands remain swollen after the disease has commenced to decline, he substitutes for the ice a liniment of one part of tincture of iodine and three parts of camphorated soap liniment; while internally tincture of iron and quinine are administered. In cases showing unusual weakness, a mixture of liquor ammoniæ acetatis, tincture of digitalis and carbonate of ammonia may be given alternately with the above.

Throughout the whole course of the disease, a good nourishing diet should be given; consisting of milk, gruel of milk and flour, and beef-tea. It may be necessary to rub the skin with cod-liver oil, containing a little quinine in suspension.

In malignant anginous cases, or incipient gangrene, he orders an infusion of one drachm of capsicum in four fluid ounces of boiling milk; and to a child five years of age he gives a teaspoonful every hour or two until the sloughs separate.

In cases characterized by very high fever, he sponges the body, and anoints it with cod-liver oil containing a little iodine.

He thinks that if patients take, not later than the second day after exposure, a solution of hyposulphite of soda with belladonna,

the disease will be prevented or rendered milder. To a child five years of age he gives eight grains of the hyposulphite, and two minims of tincture of belladonna, three or four times a day.

Many physicians have great faith in **digitalis**, given in large doses, when symptoms of blood-poisoning are manifest.

We are disposed to credit special virtues to a lotion for the mouth and throat, made by dissolving two drachms each of borax and salicylic acid in eight ounces of water. When the ill-omened coryza presents itself, the best results will be obtained by syringing the nostrils with a solution of **nitrate of silver**, five grains to one ounce of distilled water. This should be repeated every four hours. Besides the use of ice externally in severe anginose cases, great benefit will result from giving small portions of **ice cream** quite frequently to the patient. This will relieve the throat, and give the child a large amount of nutriment in a small bulk. Fetid secretions should be removed from the throat as quickly and thoroughly as possible; and this will be found far more beneficial to the enlarged cervical glands than any treatment applied directly to them.

We have tried many specifics for scarlet fever, and found none which are trustworthy. We have long since thrown off the fear of draughts, and have learned to associate the freest possible ventilation with mild cases and no sequels; while the over-anxiety which closes all possible sources of fresh air, and shuts in the poison exhaled by the patient so that he re-absorbs it with every breath, goes hand in hand with severity of all the symptoms, and probable nephritis afterwards.

SCIATICA.

DUJARDIN-BEAUMETZ says that the revulsive medication, carried out in all its rigor, succeeds best. When sciatica is obstinate, and not due to compression of blood vessels, viscera, etc., it is due to neuritis. Obstinate sciaticas are also often dependent on disease of the spinal cord; especially when bilateral. He recommends a **blister** an inch wide to be applied along the whole length of the affected nerve. LEGROUX dipped a stick in **sulphuric acid**, and with it marked out the branches of the nerve on the leg. This

is too severe; and instead he uses the Paquelin **cautery**, marking points along the course of the nerve. These points are half a centimetre in depth. SCHREIBER has lately recommended **massage** in neuralgias generally.

BUZZARD advises that in severe cases the patient be kept in bed. Hot poultices sometimes give relief, if rapidly repeated. The hypodermic injection of **morphine** gives of all remedies the most speedy relief. One-tenth of a grain, twice a day, is enough to begin with. The dose should be diminished as relief is obtained. He recommends **galvanism**, using from twenty to forty cells; one pole being applied to the sacro-iliac articulation, and the other in a tub of salt water in which the foot of the affected limb is placed. The application should be continued ten minutes.

COMEGYS reports that he has succeeded with a plan proposed by MALGAIGNE, of touching with a red hot needle the anterior part of the helix, at its entrance into the concha, on the affected side. It seems singular that such a connection should exist between the ear and the sciatic nerve. Another very painful but efficient remedy is the injection of twenty drops of **ether** just under the skin, behind the great trochanter.

DA COSTA recommends as giving certain relief, the hypodermic injection of one-eighth of a grain of **morphine** and one-eightieth of a grain of **atropine**.

LABORDE gives the following as a useful liniment:—

R Ol. terebinth.,.....f℥ viij
Chloroformi,.....
Tinct. opii,.....āā f℥ ij

M. S.—To be rubbed into the skin several times a day, with a piece of flannel.

VOGT recommends stretching the affected nerve (without cutting down to it), by extending the leg at the knee and forcibly flexing it at the hip, while the other leg, the pelvis and the body, are fixed. ROMBERG speaks favorably of this method.

TROUSSEAU, NIEMEYER, and many other authorities speak of the value of **turpentine** as an internal remedy in sciatica, but

DUJARDIN-BEAUMETZ objects to it on account of causing gastric disturbance:—

R Ol. terebinth.,.....f℥ j
 Mellis,.....f℥ j
 M. S.—A tablespoonful twice daily.

ANSTIE spoke very favorably of turpentine, given in ten minim doses. ROMBERG says it is almost a specific. JAMIESON recommended it in the following formula:—

R Ol. terebinth.,.....f℥ ij
 Ol. ricini,.....f℥ iv
 Tinct. cardamomi comp.,.....f℥ j
 Mucilaginis,
 Aquæ,.....āā q. s. ad f℥ ij
 M. S.—At one dose.

He finds that those who derive the most benefit from this remedy are middle aged persons, looking prematurely old, with hair prematurely and permanently gray; the complexion having a shade of ashy-gray or stone-color.

TROUSSEAU stated that sometimes when blisters and morphine endermically failed, a cure was obtained by covering the whole thigh with a pitch plaster.

(For further information see article on Neuralgia).

SCROFULA.

BIRCH-HIRSCHFELD advises that great attention be paid to the feeding of scrofulous children. No universal rule can be given, as the same articles do not agree with all children. He objects to children being allowed to eat food intended only for adults. Good milk, easily digested meat and well-baked bread, forms the bulk of the diet. Lentil soup agrees with many. The best drink is water; but well-fermented light beer is not to be rejected. Children must not eat too much or too often; while as to the habit of friends presenting children with candies, he exclaims; "The Lord protect them from their friends!" Pure air, muscular training and the culture of the skin, should receive due attention.

Cod-liver oil is especially suited to poorly-nourished patients,

and those with scrofulous bone diseases and ulcers. On glandular tumors it has no effect. It should be given in doses of two drachms at first, half an hour after meals.

The least dangerous form of **iodine** is the water of the Adelheid spring, of Heilbronn. NUSSBAUM reports numerous cases of bone-scrofula sent to him for operation, which recovered under its use. Of the other iodine preparations, the best is the iodide of iron. It may be useful in chronic and grave affections of the bones or of the brain.

Iron is indicated in anemic cases, and then the mildest preparations should be preferred, such as the lactate, pyrophosphate, etc.

The muriatic saline waters are recommended for glandular tumors, connective tissue inflammations, chronic catarrhs and skin affections. The water is used internally and externally. But the most important point in the selection of a spring, is the hygiene, purity of air, and protection from winds, which it affords. Wherever the patient is sent, a long residence is essential.

At the *seaside*, scrofulous affections of the eye become worse, while bone diseases and large solid glandular tumors remain stationary.

Hydropathy is beneficial if rationally applied; but a fanatic may do harm with it. Wet packs and cold douches are to be commended.

Local scrofulous affections receive the ordinary local treatment. Skin diseases demand simple cleanliness. Ophthalmia is not benefited by astringents, and is made worse by cold water. Tying up the eyes with heavy materials must be forbidden. For photophobia, immersion of the face in cold water is a good remedy. Catarrhs should be carefully and thoroughly treated, on general principles; the digestion being sedulously improved.

As to glandular tumors, he does not take as decided grounds in favor of their removal as does HUETER, whose prescription is "iron in the form of the scalpel." His objections are as follows: (1) Local tuberculosis often exists in the body for years without producing general tuberculosis. (2) The lung disease almost always begins simultaneously with the cheesy deposit in the

glands, and such patients die of phthisis in spite of the extirpation of the glands. (3) Is the danger of general miliary tuberculosis greater than the danger for the operation? (4) In many cases it is impossible to remove all the diseased glandular matter; as in the case of the mediastinal glands.

To these objections we will answer a few words, as we unhesitatingly cast in our vote in this matter with HUETER. (1) Nobody claims that local tuberculosis always produces general tubercular disease, but that it often does so, and that there is always danger that it will do so. Hence, we advise the removal of enlarged glands, just as we advise a person who has a hernia to wear a truss. (2) In cases where the lung disease really exists already, the removal of diseased glands is not so imperative; although even then it is in accordance with reason and observation, that the system can better resist the attack of the disease if its extent be limited. But is it really true that pulmonary tuberculosis almost always accompanies scrofulous enlargement of the lymphatic glands? If this be true, the results of our operations in removing such glands are simply astounding—if each time we unwittingly cured a pulmonary tuberculosis. (3) This is a question to be decided in each particular case; and is not a proper objection to be brought against the method. (4) This is also irrelevant; as there is no question of operation upon glands which are out of the surgeon's reach.

HENOX calls attention to the importance of avoiding the diseases which may awaken the disposition to scrofula; such as whooping-cough, measles, small-pox and vaccinia.

Pure air, in light and airy apartments, the removal of cold and moisture, nutritious diet, country air, gymnastic exercises and careful attention to the functions of the skin, are the most important anti-scrofulous remedies.

Among drugs he places **iodine** first; giving it in the form of iodide of iron, or in Lugol's solution. If no disturbance of digestion occur, the remedy must be continued for months; but it is contra-indicated by even the suspicion of pulmonary tuberculosis.

His estimate of the bathing resorts agrees mainly with that of BIRCH-HIRSCHFELD.

Cod-liver oil he considers far inferior to iodine. If the local application of iodine prove unsuccessful in causing resolution of enlarged glands, the inunction of potash soap should be tried before proceeding to extirpate the glands.

DAVIS adds his voice in favor of the long continued use of iodine in small doses.

When the glands have suppurated, the pus should be discharged by an early incision. When there is extensive suppuration, with open ulcers which have excavated edges, he prescribes:

R Hydrargyri chlor. corros.,.....gr. j
 Tinct. cinchonæ comp.,.....f℥ iij
 Ext. conii fl.,.....f℥ iv
 Syrupi,.....f℥ iv

M. S.—A teaspoonful (to an adult) before each meal.

BARTHOLOW recommends the emulsion of cod-liver oil with lactophosphate of lime. The syrup of iodide of iron and manganese is an efficient remedy. The best local remedy is the ointment of the red iodide of mercury. When abscesses form, the pus should be drawn off with an aspirator, and the cavity injected with tincture of iodine. Open ulcers may be dusted with **iodoform** and tannic acid.

RINGER recommends the **sulphide of calcium** when pus is forming.

LOOMIS says that **brine baths** are frequently of the greatest benefit.

We have frequently obtained more benefit from hot salt baths, with rubbing, than from any internal medicine. The **lactophosphate of lime** has proved very serviceable in our hands; more than iodine or cod-liver oil. It must be given to the amount of ten grains daily, divided into many doses. It should be continued for from six months to two years. But little benefit will be obtained if it be given for a few weeks only. Whenever suppuration is threatened, one grain of **sulphide of calcium** per day may be added. Of local measures, the only one worth employing is **rest**; secured by an apparatus as suggested by HILTON. This author claimed that the constant movements

of the cervical muscles prevented the subsidence of the inflammation. Be this as it may, the fixation of the head is a useful auxiliary in the treatment of such affections. The injection of iodine is a useless and cruel procedure, when one considers that it is generally children who are the subjects of treatment. The most satisfactory cases we can recall to mind are those in which we extirpated the glands.

Residence in damp, elevated regions, such as Bradford, Pa., and many Alpine valleys, increases the tendency to enlargement and suppuration of the glands.

SCURVY.

LEACH states that the treatment is almost purely dietary: and consists in replacing the green vegetables whose deprivation causes scurvy. Solid animal food (fresh) should be given once a day, as soon as it can be masticated. Eggs, broths, minced meat and fish may be given at once, as well as vegetable food. If there be great prostration, brandy must be given in small and frequently repeated doses, but this is only exceptionally necessary. Malt liquors are antiscorbutic. So, also, is milk. All active medicinal treatment is to be avoided; as well as all forms of counter-irritation. It is said that lime-juice is an efficient agent when used locally to promote the healing of ulcers and wounds.

Merchant vessels of most nations are now compelled by law to distribute to the sailors regular rations of pure and genuine **lime-juice**. But the great diminution in the number of cases of scurvy in modern times, depends less on this than on the generally diffused knowledge of the causes of this disease. Ship owners are too careful of their own interests to allow the crews of their vessels to become disabled by scurvy; now that improved methods in preserving vegetable foods allow the latter to be used even on long voyages. The knowledge that fresh vegetable food of any description will cure scurvy has saved many lives.

Old sea-captains will almost always be found to entertain a firm conviction that scurvy may be prevented by keeping their men fully occupied; and a similar belief is prevalent in regard to the prevention of yellow fever.

Occasionally we see instances of scurvy on land; mostly in children who are *too* carefully fed, by limiting the diet too closely. We have noticed in the early days of spring, little children eating huge cucumber pickles; and ascertained on inquiry that they had bought these with the pennies given them to purchase candy. When one reflects upon the fondness of children for sweetmeats, the purchase of such articles as pickles, at a season when fresh truck has long been scarce, is very significant.

SEA-SICKNESS.

DE ZOUCHE says that there are no known means of preventing sea-sickness. Most cases get well spontaneously, but many require treatment. The diet should be light before embarking. Fresh air is a powerful remedy, and the patient should remain on deck whenever the weather permits. In the early stages, **alkalies** are indicated. Ten to twenty grains of bi-carbonate of soda, fifteen minims of ammoniated tincture of valerian, five minims of chloroform, half a drachm of rectified spirit, a drachm and a half of mucilage of acacia, and sufficient camphor water to make one ounce; this may be given every two hours. **Chloroform** is a valuable sedative to the stomach. Other useful drugs are Hoffmann's anodyne, hydrocyanic acid, and **bismuth** in prolonged cases. Ice **champagne** is often valuable. Ice, sucked slowly, relieves thirst and allays vomiting. A hypodermic of **morphine** sometimes acts like a charm. Chloral, nitrite of amyl and nitro-glycerine have been successfully employed in some cases.

Belladonna, chloroform and camphor liniments applied to the epigastrium, and a firm abdominal bandage are useful. When in the berth, the patient should lie on his back, with the head low, and as quiet as possible. Light, semi-fluid food should be given frequently. Afterwards, toast, beef-tea, chicken broth, boiled fowl, or pickled meats may be tried. At this stage, **acids** aid digestion; and now, also, claret, champagne, brandy or stout may be allowed. Diarrhea and other symptoms are to be treated as usual.

CHAPMAN recommends ice to be applied to the spine; and this is sometimes successful.

LOOMIS divides the treatment into two general plans; the sedative and the stimulant.

Of the first, the spinal **ice bags** are of decided value, but are not suited to many cases. The **bromides** are often useful, but must be commenced some time before the voyage and continued until the patient has become accustomed to the motion of the vessel. **Amyl-nitrite**, from the rapidity and the certainty of its action, seems to be the most desirable remedy yet proposed. It should be given in full doses upon the first appearance of epigastric distress, and repeated as necessary.

The effects of stimulants are good sometimes, but not usually.

In some slight cases, simple devices prove successful. A prolonged, even inspiration as the vessel rises, followed by a similar expiration during descent, is among the most successful.

In some cases no remedies will be of any use, and the patient must be fed per rectum with artificially digested foods. Two classes of cases are to be distinguished; the plethoric and the anemic. In full-blooded persons, with pulsating carotids and headache, the remedies are total abstinence from food and drink; **bromide of sodium** in doses of twenty grains every two to four hours; a bottle of citrate of magnesia, an aloetic pill or an enema, the day before sailing, and twenty grains of **chloral** at bedtime, the first night on board. No stimulants should be allowed; but the next morning a small cup of very hot **coffee** without cream or sugar, or of beef-tea, should be given immediately upon awakening, and before any attempt to rise is made. A cold sponging may follow, and usually the patient will take a light breakfast with relish.

In anemic cases the patient should be fed up carefully for a week before setting sail. The bowels should be open, but not with purgation. Instead of sedatives, **hot water** may be given before each meal, and if the water be vomited, a small quantity of the most quickly absorbable food should be swallowed immediately the vomiting stops. Of such food, rennet and milk, lime-water and milk, the white of egg beaten up in water, and **bovine**, are the best examples. Small doses of strychnine (gr. 1-60) are useful in these cases. The strength should be supported from

the first by **quinine** suppositories, five grains every six hours; and, if the case be protracted, by enemata of pepsinized milk and eggs.

If the stomach be excited and irritable, rejecting everything which is offered, a choice may be made among the following articles, each of which is efficient at times: Bismuth subcarb., gr. v, and sodii bicarb., gr. ij, taken together, every half to two hours; chloroform, gtt. v, every hour; **cocain.** hydrochlor., gr., 1-10, every two to four hours; argent. oxid., gr. ¼, or zinc. oxid., gr. j, every four hours; sinapisms to the epigastrium. After the first two days, relief will often be experienced by taking a small glass of bitter ale, or of champagne; especially if stimulants have been heretofore withheld. In some cases ice will be found useful, but much more frequently hot drinks will give relief. Plain soda water in small doses, sometimes acts like a charm. Salty drinks like Vichy or Appollinaris agree better with plethoric persons. Some patients find relief in sucking lemons, or eating olives; while with many others, hardtack, dried beef, "salt horse," or old and tough ship's beef, are the first things which will remain in the stomach long enough to be digested. In this case, the action of chewing probably sets up a secretion of healthy gastric juice as well as of saliva. A similar action would probably follow the use of small doses of ipecacuanha and rhubarb.

Persons who are unusually sea-sick should select a stateroom as far as possible from the propeller, where the jarring motion will be least annoying. They should keep in the open air, and away from the engines, where the smell of the machinery is so trying. Generally, the forward part of the vessel is most endurable, or some place near the center of gravity. Of the very first importance is the finding of some other occupation than that of watching the development of stomachal sensations. If one can be induced to forget their qualms, the battle is won. Finally much can be done if the patient can be induced to exercise his will, and resolutely eat his meals, even if they be rejected, until the rebellious organ is quelled.

SEPTICEMIA. (See Pyemia).

SMALLPOX.

CURSCHMANN states that vaccination during the incubation of smallpox will not prevent the outbreak of the latter, and it is doubtful whether it renders the attack any lighter. The assertion that large doses of quinine given during the stage of invasion renders the subsequent course shorter or modified, is contrary to his large experience.

During the stage of invasion the patient should be kept in a large, well-ventilated room, at a constant temperature of 60° – 67° F. The patient should be kept in bed, and given easily digested food. Pure water is the best drink. High fever may necessitate the use of **quinine**, digitalis, cool baths or sponging. If the headache be severe and the face flushed, ice compresses and ice-bags usually give relief. Ice and Seidlitz powders may relieve vomiting. When these are ineffectual, he uses hydrocyanic acid and hypodermics of morphine.

In the eruptive stage, the measures to be adopted vary with the form of its appearance. Mild varioloid needs no interference. In severe variola, the Arabs opened the pustules and evacuated the contents. This merely renders the patient more comfortable. Cauterization is impossible in confluent cases, and unnecessary in discrete forms. The best plan is the use of cold compresses on the face and hands, and wherever the eruption is abundant. By this the severe pain is diminished, the swelling and redness of the skin are lessened; but no modification of the eruption is obtained.

The intense pain in the hands and feet may be relieved by wrapping them in cold cloths. If the odor be bad, carbolic acid or other antiseptics may be added to the water.

Baths are not so useful as in typhoid fever. Compresses and sponging of the body are more easily used.

Astringent gargles are indicated for the mouth and pharynx; the best being a weak solution of tincture of iron.

The diet should correspond to the degree of fever, and the condition of the patient's stomach. Bouillon with eggs, Liebig's beef extract and even wine may be given if the patient be weak. In delirium, **chloral** should be given, by the rectum (to avoid irritating the throat), in doses of ninety to one hundred and twenty

grains, in eight ounces of thin mucilage. Hypodermics of morphine, or bromide of potassium may be used instead of chloral. Delirious patients should be closely watched.

If patients be weak or threatened with collapse, quinine, camphor, wine or alcohol should be given. A very good preparation is this: Brandy, distilled water, each two fluid ounces; the yolk of one egg; syrup, one fluid ounce. A tablespoonful every two to three hours.

In the declining stage, warm baths give great comfort, and assist in the removal of the crusts. Inunctions of fat alleviate the itching.

Abscess must be opened early and freely. Nothing will prevent the formation of cicatrices, but in variola verrucosa he has painted the nodules with iodine, with great benefit.

Against the hemorrhagic form we are almost powerless. Styptics, ice and tampons may be used, but have little effect. Transfusion has proved disappointing, but should be tried further. In prophylaxis, it is to be remembered that contagion clings to clothes, etc., for a long time. All such articles are to be destroyed or disinfected by heat, chlorine, sulphur or exposure to the open air for a long time.

RUTH claims to have prevented small-pox in over one hundred cases by giving for fifteen days an ounce of vinegar, four times a day, and using also aromatic vinegar, which contains camphor, garlic, lavender and nutmeg.

DUJARDIN-BEAUMETZ recommends for the back-ache:

R. Chloroformi, f 3 ij
 Ol. terebinth., f 3 ij
 Lin. saponis, f 3 ij

M. S.—Liniment.

For constipation he gives mild purgatives.

Mercurial ointments have the curious property of preventing the development of the pustules. He applies over the whole face the emplastrum de vigo cum mercurio, and over this dusts starch powder. All fissures which appear in this mask are filled up with new applications of plaster and starch. This should be

applied at the very beginning of the eruption. The pustules around the mouth will not be aborted, because the constant motions break the mask.

The method of **SERRES** consists in opening each vesicle and applying nitrate of silver. This should be reserved for pustules developing on the cornea. For the mouth, gargles of Vichy and chlorate of potassa often give relief.

In the period of secondary fever, he earnestly recommends **baths** at a temperature of 95°, to which may be added chloral, thymol or antiseptic vinegar. The duration should be half to three quarters of an hour, and some rum punch should be given during the bath. The antiseptic vinegar of Pennés is made as follows:

R	Acid. salicylici,.....	part iij
	Alumini acetat.,.....	" iij
	Concent. tinct. eucalypt. glob.,.....	" x
	Concent. tinct. verbenæ,.....	" xc
	Concent. tinct. lavandulæ,.....	" x
	Concent. tinct. benzoin,.....	" j
	Acid. aceticæ, 8°,	" x

M. S.—Three ounces are to be added to a full bath.

To these local measures may be added the use of disinfectant powders, of salicylic acid, six parts, and starch or tale, one hundred parts; or painting with iodine. **PROCH** uses one part of tincture of iodine to three parts of glycerine, and applies it with a camel's-hair pencil every four hours.

When heart symptoms develop, with a soft bruit, a double second sound of the heart, delirium and great weakness, **ether** may be given in deeply inserted hypodermics, and **opium** to the amount of two to four grains of the extract daily, in divided doses. With these, alcohol, caffeine and cinchona should be used.

Du CASTEL gives a hypodermic syringe of ether twice daily, and one to two grains of opium morning and evening. The more intense the delirium the larger the dose of opium. Finally, tincture of iron is given in twenty-drop doses.

ROBERTS speaks of the importance of low diet in the beginning, with plenty of cooling drinks, ice, fruit, roast apples, and no stimulants. Later, the diet should be gradually altered to beef

tea, soups, jellies and alcohol. In cases of a low type and with much suppuration, supporting measures must be employed from the first.

The eruptive stage requires cool drinks and sponging with antiseptic lotions. SANSOM touches each pustule with carbolic acid, and then applies a mixture of that substance and oil of thyme. The fever can be kept in check by sponging, or by the administration of **quinine**, three to five grains every four hours. During suppuration tonics are needed, such as iron, quinine, mineral acids, and stimulants if adynamia be present. For the eyes, compresses of cold water, or of a solution of corrosive sublimate, one grain to six ounces, may be used.

DAVIS gives ten to fifteen grains of **hyposulphite of soda** every four hours, to destroy the specific virus, and in confluent cases this is continued through the eruptive stages. If there be much gastric distress and vomiting, he gives a grain of **calomel**, every two hours, alternated with a teaspoonful of the following:

R	Acid. carbolic,	gr. viij
	Glycerini,	
	Tinct. gelsemii,	āā f3 jv
	Tinct. opii camph.,	
	Aquæ,	āā f3 ij

M.

If the hyposulphite be rejected, it is given by the rectum. During the secondary fever he substitutes the tincture of iron and quinine; and if great weakness be present, the carbonate of ammonia in camphor water.

In hemorrhagic cases he gives **strychnine** and nitric acid instead of the quinine. For free intestinal hemorrhage he gives one or two grains of persulphate of iron, every hour.

In malignant cases he recommends the following:—

R	Sodii hyposulphit,	3 vj
	Acid. carbolic,	gr. x
	Aq. menthæ,	f3 jv

M. S.—A teaspoonful every hour or two.

But they generally die.

SPERMATORRHEA.

S. W. GROSS recommends that the diet be nutritious and digestible, the evening meal in particular being light and dry, and stimulating food as well as alcohol being avoided. Before retiring, the bladder should be emptied. The patient should learn to sleep on the side, on a hair mattress, without much covering. As fulness of the bladder induces erections and morning emissions, the patient should set an alarm clock to strike one hour before the time at which the pollutions usually occur, in order that he may be awakened to rise and empty his bladder.

Horseback riding and driving over rough roads should be interdicted. Masturbation, sexual intercourse, and all which tends to excite erotic emotions should be avoided. The mind and the body should be pleasantly employed; and if the patient have no manual labor to perform, he should be encouraged to devote himself to gymnastic exercises. But if there be signs of spinal exhaustion, his mental and physical exertion should be very moderate. Any abnormal condition found about the external genitals should be remedied; such as phimosis, for which circumcision is enjoined. Herpes yields to a regular diet, relief of constipation, dusting with bismuth and calomel, or touching with a five-grain solution of nitrate of silver. Contraction of the meatus should be divided; a short frenum should be clipped; piles, rectal fissure, pruritus ani, varicocele, and constipation, should receive their appropriate treatment.

Of the exciting causes, the most frequent is inflammation and hyperesthesia of the prostatic urethra, perhaps associated with stricture. For this condition the same remedies are to be used as recommended under the head of impotence (page 251). Under all circumstances he gives half a drachm of **bromide of potassium**, with ten drops of fluid extract of **gelsemium**, every eight hours, and one-sixtieth of a grain of **atropine** at bedtime. In anemic subjects the bromide may be given at bedtime, and quinine and iron during the day. If the bromide be badly borne, it may be replaced by a scruple of **chloral**. Of local remedies, the steel bougie occupies the first rank, but when the inflammation is reduced to a limited area, around the opening of the ejaculatory ducts, he applies **nitrate of silver**. The hot **sitz-bath** is

invaluable; and HARRISON advises douching the lower spine with water at 120° F. If, as rarely happens, a case resist these measures, he recommends **galvanization**, with the anode to the lumbar region and the cathode to the perineum.

When atony of the mouths of the ejaculatory ducts remains, the galvanic current, with the anode on the perineum and the cathode in the rectum, affords the most striking results. If galvanization prove inadequate, the **faradic** current may be passed through a negative electrode in the prostatic urethra, to the positive on the perineum or spine. This requires caution; beginning with a feeble current. Some cases of atony are benefited by the administration of **ergot**, half a fluid drachm of the fluid extract after each meal. Twelve drops of tincture of **iron**, with three of tincture of **cantharides**, also proves serviceable.

TROUSSEAU suggested the use of an ivory or hard rubber plug to be worn in the rectum. RICHARDS obtained good results from forcible dilatation of the anus. If there be spasm of the sphincter ani, this procedure should afford benefit.

The use of the steel sound is undoubtedly the most efficacious agent known in the treatment of this affection. It should be passed every other day, and allowed to remain at first but a minute, but left longer at each insertion, until half an hour is reached. As large an instrument should be used as will readily pass into the bladder. The treatment should be continued until there is no longer any tenderness in any part of the urethra. In many cases it will be found advisable to supplement the use of the steel sound by that of the soft French olive-pointed bougie. This may be used by the patient, if he be unable to see the physician often enough. Tonics will be frequently required, especially **iron** and **strychnine**. Phosphorus is a noxious drug in these cases. **Coca** is sometimes singularly beneficial. A little sympathy is not misplaced in these cases, as it will generally be found that the victims of spermatorrhea were as children given to wetting the bed, even perhaps until the age of puberty. Masturbation is the next step, then spermatorrhea, and lastly hypochondria. In spite of the alleged obstinacy of these cases we have never met with one which resisted a rational system of treatment,

based on a study of the symptoms present, and tempered with the kindly interest in his sufferings, which at once wins the confidence and enlists the co-operation of the patient.

SPINAL CORD: DISEASES OF

1. MENINGEAL HEMORRHAGE.

ERB prescribes, first, absolute rest on the side or face. To prevent further bleeding he gives repeated powerful purges, applies ice to the spine energetically, and freely leeches the spine or perineum. The effect of these remedies may be aided by hot applications to the feet, and by the use of **ergotin** in large doses.

If inflammatory symptoms arise, the leeches may be repeated, and **mercury** used locally and by the mouth.

Resorption may be hastened by the local and general use of **iodine**, by lukewarm baths, by cold water treatment and by **galvanism**. Later, the strength will require quinine and nuxvomica.

Pain and spasm in the beginning will require narcotics; anesthesia and paralysis in the later stages demand faradisation, and other symptoms call for their usual treatment.

2. MENINGEAL TUMORS.

ERB gives little encouragement to the therapist. Some improvement has followed the treatment at the warm springs and the use of brine baths. Iodine and mercury should be tried, even in non-syphilitic cases. The question of operative interference belongs to the surgeon.

Generally the treatment will consist in palliating the symptoms and attending to the patient's needs.

3. ANEMIA OF THE CORD.

ERB says that the first indication is to remove the cause.

BROWN-SÉQUARD recommends that the patient lie on the back, with the extremities raised, during the night, and several hours during the day. He speaks warmly of the value of **strychnine**,

and HAMMOND agrees with him, giving this drug in doses of gr. $\frac{1}{30}$ to $\frac{1}{5}$, three times a day, perhaps adding **phosphide of zinc**, gr. $\frac{1}{12}$. HAMMOND also recommends galvanization of the spine, to dilate the vessels of the cord and improve its nutrition. He prefers the ascending stable current.

ERB also makes use of hot sand-bags to the spine, or alternate hot and cold douches.

4. SPINAL APOPLEXY.

ERB says that such causes as can be reached must be obviated to prevent the attack. Suppressed menses, cessation of hemorrhoidal bleeding, heart disease and spinal congestion, should receive attention.

If the symptoms be due to central myelitis, large bleedings, ice to the spine, powerful purgatives, mercury and iodide of potassium should be used.

For the hemorrhage itself, little can be done, as it is over before the physician arrives. But if a recurrence be threatened, the measures just mentioned should be employed to prevent it; besides the maintenance of a position on the side or on the abdomen, the subcutaneous injection of **ergotin**, or the administration of digitalis, and plunging the feet into hot water. The chief object later will be the prevention of cystitis and of bed-sores. Nothing but the most careful and self-sacrificing attention can accomplish this. The urine must not be allowed to stagnate in the bladder. Mechanical manipulations may be used to facilitate evacuation, and if necessary the catheter should be used twice a day, with the utmost care and cleanliness. Plenty of water should be drank, with **salicylic** or **benzoic acid**, to prevent decomposition of the urine.

If cystitis have developed, he uses salicylic acid by the mouth (thirty to sixty grains daily), and by injection into the bladder, in the strength of one grain to the ounce. Benzoic acid is said by GOSSELIN to be best for ammoniacal urine. The dose is thirty to ninety grains a day.

Bed-sores are to be prevented by avoiding continuous pressure on the skin. All filth must be removed from the skin as

quickly as possible. The circulation of the skin should be slightly stimulated by spirituous lotions, cold water, poultices [?] or moderate faradisation. Air and water pillows are of use. If a bed sore form, it may often be healed by great cleanliness, frequent washing, zinc ointment, mildly irritant salves, chamomile water or aromatic wine.

For the great gangrenous sores, BROWN-SÉQUARD recommends the alternation of **ice** (ten minutes) with poultices (one or two hours). The dead tissues should be quickly removed, and antiseptic dressings applied. **Carbolic acid** is the best, and should be applied on wadding, in water or oil. Water or air pillows must be used. In bad cases swing the leg on a pillow and lift the sacrum up.

If the first week pass without serious results, give **iodides** to promote resorption, with luke-warm baths, warm brine baths, moderate cold water cure, and the scientific use of **galvanism** above all. The latter is the chief remedy for sequent palsies, atrophies and anesthetics.

5. SPINAL CONCUSSION.

ERB says that the treatment is primarily that of shock. Quiet, warmth and rubbing the body are the first things to attend to. Then, **stimulants** must be given in full doses; such as **wine**, coffee, tea, hot grog and cognac, or **ammonia**, ether, musk and camphor. In severe and threatening cases, large blisters or sinapisms and the **faradic brush** are to be used.

LEYDEN recommended the hypodermic use of **strychnine**.

Blood letting is rarely needed; leeching somewhat more frequently.

The reaction requires absolute **rest**. ERICHSEN put the patient on his back on a couch with the foot tilted down. The other measures indicated are those used for hyperemia of the cord.

During convalescence the patient must carefully avoid excessive bodily or mental work, sexual excitement, and jarring the body; and he must have enough sleep. Recovery can be favored by careful rubbing with cold water, by ascending stable galvanic currents through the spine, by faradisation of the skin, by

carbonated chalybeate waters, and by the use of tonics. Strychnine must not be given as long as any symptoms of irritation remain. Patience is a first requisite. The sequelæ often require the treatment of chronic meningo-myelitis. Quiet and a well-ordered life are of the first moment. The chief remedies are the galvanic current, derivatives to the skin and the **iodides**. ERICHSEN praises his combination of **corrosive sublimate** and **quinine**. Strychnine and iron come in later, when a good turn has been taken. Hot baths are injurious, but judicious cold-water cures are useful. SCHOLZ says that the **Cudowa** springs are indicated in pure cases of concussion, and in later periods when there is little inflammation.

6. SPINAL IRRITATION.

ERB says that the treatment is difficult; the patient is also irritable, changeable and weak of purpose.

The chief object is to improve the nutrition of the nervous system. Good food in abundance should be prescribed, with a free use of alcohol. HAMMOND orders brandy and rum. **Quinine** and **iron**, zinc and cod-liver oil may be used. Fresh air is indispensable; judicious active and passive exercise is always indicated, as well as frequent repose. Mountain and forest air is to be sought. Moderate **hydrotherapy** aids this treatment, especially when applied in a high mountain climate.

Strychnine enjoys a special reputation among many physicians in this affection. HAMMOND gives it with phosphide of zinc. He also ascribes great value to the **galvanic** current. ERB also testifies to its value. He passes an ascending stable current through the spine, including the painful portion between the poles. The current should not be strong nor the sitting prolonged. The negative pole may often be applied directly to the painful spot. General faradisation and central galvanization are frequently beneficial.

Blisters, tartar emetic, turpentine, veratrine, dry cups, moxæ or the actual cautery, can be used directly over the painful spots on the spine; the severity of the application being regulated by the grade of the disease.

HAMMOND recommends **opiates** for the pains. Hot sands bags are preferable, also the bromides.

BROWN-SÉQUARD says that he employs the following substances together with more benefit than any one of them alone in such cases: morphine, from $\frac{1}{3}$ to $\frac{1}{2}$ a grain, strychnine, from $\frac{1}{35}$ to $\frac{1}{25}$ of a grain, and atropine, from $\frac{1}{50}$ to $\frac{1}{40}$ of a grain, beginning with the minimum dose, and reaching quickly the maximum one, if the increase can be borne. When the pain or tenderness is localised in a small part of the spine, he has obtained great relief from the use of an ointment of aconite, two grains; veratrine, four grains; and lard, two drachms. Every counter-irritant, including galvanism, has been used with benefit in some cases. Applications of ice and of the **actual cautery** will be found to be the best. Ice may be employed, finely pounded, as a kind of poultice, applied on a large surface and on the bare skin, or in frictions on the two sides of the spine; and by either process only for three to six minutes, twice a day. If there be no success by these means, the application of a very hot piece of flannel over the principal seat of pain is advisable, followed after five minutes by the application of ice according to one or other of the two above methods. When the whole spine is tender or painful, each of its three regions should be treated, one after the other. Next, if not first in importance, is the use of the actual cautery, after the following rules:—First, the instrument must be at *white* heat; secondly, it must have a very small surface; thirdly, it must be applied quickly although firmly; fourthly, it must make, on each day of application, three or four cauterisations on each side of the spine, and these irritations must extend over two or three inches in length; fifthly, the operation is to be repeated every day for eight or ten days, care being taken that the instrument is passed each time on unaltered skin. The outer layer of the skin dries up and becomes brown, but there is no blister, ulcer or purulent discharge. This is a most valuable means of treatment, especially when the pain and tenderness of the spine are intense. If all the means already mentioned have failed, or even when they have not been tried, and when the patient is attacked in a great extent of the spine, and is quite submissive and willing to do as she is told, **absolute rest** of the tender and painful parts is to be employed. In HILTON'S

work on *Rest and Pain*, the rules are given which must be followed in such cases.

The words absolute rest express exactly what is needed. It would be worse than useless to make a patient with spinal irritation lie down, and stay in bed for two, three, or four weeks, if he or she were allowed to turn in bed, or to move the spine at all at the affected part. If the rest of the part is really absolute and constant, a cure is almost always obtained after a few weeks. So long as the difficult treatment lasts, every attention must be paid to the nourishment, to the state of the bowels, and to the occupation of the mind of the patient. It need not be said that other means of treatment (especially subcutaneous injections against pain), are to be used during the period of rest. Fresh air must be admitted to the room as far as the season allows. The muscles of the limbs (which are to be left without voluntary movement) are to be gently galvanised several times a day, so as not only to improve their nutrition, but to act also on the general circulation of the blood. On getting out of bed, when it is ascertained that both pain and tenderness have disappeared from the spine, the patient must for a time (a week or more) be most careful to avoid moving much the parts which have been affected.

7. SPINAL NEURASTHENIA.

ERB pays special attention to the diet and regimen of the patient. He must live a regular and healthy life, must work little, with frequent rests, must go to bed early and sleep as much as he can, must eat plenty of strong but digestible food, at moderate intervals. He may drink wine in moderation, and take plenty of easy open-air exercise, but never to exhaustion. If he be easily exhausted he must sit much in the open air. Sexual intercourse must be closely restricted, but not forbidden, unless for a short time only.

Moderate cold-water cure is especially beneficial. Rubbing with luke-warm water, gradually made colder, washing the back and feet, and sitz-baths, are the most suitable measures, and soon increase the vigor. Douches and cold applications should be avoided. Mountain air is no less efficacious; a long time passed among high mountains, gradually ascending higher, does much good; especially when combined with a water-cure.

Galvanism is best applied ascending, stabile, changing the electrodes, and not too strong. It may also be applied to the legs and genitals. Of drugs, the only ones of use are iron, quinine and strychnine; the latter should be used cautiously.

For anemic persons, chalybeate baths are indicated. Those who are sensitive to cold should try the hot brine baths. Sea-baths are an excellent after-treatment for patients who are used to the water, and have a good digestion.

These cures must be followed up steadily for a long time, for the affection is obstinate.

8. ACUTE MYELITIS.

ERB speaks of the causal treatment as necessary in many cases. If the signs of coming myelitis appear after exposure to cold, the disease may be arrested by energetic diaphoresis, by hot drinks, by the warm bath, by the pack, and by derivatives to the back. When there has been excessive bodily exertion, the same end may be obtained by absolute rest in bed, a warm bath, etc. Suppressed secretions or discharges should be excited afresh. Syphilis demands an energetic course of mercury and the iodides.

But usually patients are not seen until the disease is developed. In severe and threatening cases an energetic antiphlogistic treatment is indicated. **Leeches** or wet cups may be applied repeatedly. **Ice-bags** may be employed. Compresses should be applied to the back and changed every few hours. Mercurial inunctions may be added to this. **Calomel** may be given in small doses, and later iodide of potassium. BROWN-SÉQUARD recommends the use of **ergot** and **belladonna**.

In most cases moderate cathartics and diuretics are more important and more useful. Blisters, when properly used, will do no harm and often do good. In serious cases the actual cautery should be used. Neither should ever be applied to anesthetic skin or to parts exposed to continuous pressure. In dangerous cases a bold streak or punctate cauterizations should be drawn along each side of the spine, and repeated every day or two.

This treatment must be modified to suit the case and the patient's strength. The strength must be kept up by careful feeding. The patient should lie absolutely quiet, and on the side

or abdomen rather than on the back. Easily digested, nourishing food, no alcohol, no tea nor coffee, absolute mental quiet, regular washing of the skin, and every precaution against cystitis and bed sores; these are the general rules. If we tide over the first few weeks, the case may for a time be left to nature; the careful nursing and dieting being still continued. After this the treatment is that of chronic myelitis.

SPITZKA doubts the efficacy of all the above regimen; all the more because JEWELL claims improvement to have followed the use of **strychnine**, in very large doses. In relapses, he (SPITZKA) has obtained good results from derivation to the feet; and as people contract myelitis from exposure of the feet, but not of the back, he considers it better practice to apply remedies to the same extremities. Rest is imperative. The earlier the patient takes to his bed, and the more thoroughly he obeys the injunction to keep still, the better will be the result. In convalescence, gradually increasing exercise is proper, invariably stopping short of fatigue. In all cases in which bed sores are feared, the water bed should be used. The **warm bath** is probably the most useful single measure which can be employed in acute myelitis. In cases due to exposure it cannot be employed too soon. The temperature at first should be 88° F. and the duration seven minutes. If the effect permit, it can be extended to half an hour or longer. It should be used once daily, or oftener if the patient be not disturbed by it. Retention of urine is the most frequent cause of death. Complete retention demands continuous catheterization. In other cases the bladder should be emptied every eight hours. The catheter is to be thoroughly disinfected, and if the slightest sign of cystitis appear, the bladder should be irrigated with a solution of **corrosive sublimate**, one part to two thousand.

When the bladder and rectum are paralytic, they should have **galvanism** applied by means of properly insulated sounds.

9. CHRONIC MYELITIS.

ERB says that it is only in isolated cases that anything can be done in respect to the causal indication. Acute myelitis must be carefully treated, compression removed, syphilis attacked, and

diseases of the periphery, of the intestines, or of the urinary and sexual organs, must be properly managed. Hemorrhoids, constipation and dyspepsia should be treated. In any case, the earlier the treatment is begun, the more likely it is to prove successful. Antiphlogistics are only to be employed for acute or subacute exacerbations. Derivatives are of very little use. A harmless and sometimes useful measure is the application of dry cups to the spine, every few days.

BROWN-SÉQUARD praises the daily use of hot douches to the back, for two to three minutes at a time; the stream should be nearly an inch in diameter.

The chief reliance is now on three remedies; baths, hydro-pathy and galvanism. The **baths** should never be above 92° F. They should only be used after other means fail, and even then with every precaution. Brine-baths at 79° to 86° are preferable. They should not be prolonged; and any increase in the activity of the treatment must be made with great caution. Great irritability, violent pains, and other symptoms of irritation, should make us hesitate to use these baths. Of twenty-one cases, twelve were improved by this treatment, and none were made worse.

Still better are the results of the **cold-water** cure. In twenty-nine cases, twenty-one gave favorable results, five were unchanged, and three became worse. Forced cures, and severe and exciting procedures, such as very cold water, douches and sharp slapping, are very dangerous. Even entire wet packs prove injurious. Simple rubbings with wet cloths, half baths with affusions to the back, hip baths, foot baths and sponging the back, and local compresses to the back left on until warm, are the most applicable measures. The treatment should begin with a temperature of 68°–77° F.; and never go below 61°–54°. Excessive prolongation of the treatment is injurious. This method is applicable to nearly all cases, but is unsuited to those in which reaction is insufficient.

In one hundred cases treated by **galvanism**, ERB obtained favorable results in fifty-two. Complete recovery was rare. In the majority the improvement was but moderate. In one only, the result was decidedly bad. The chief method employed is

direct galvanization of the cord. It is best to let both poles act successively, with a stabile or slowly labile current. The current should be weak and the séances short. The treatment must be continued for months, with brief pauses. It may be alternated or combined with other methods. If it be not well borne, it must be stopped. **Nitrate of silver**, praised by WUNDERLICH, is said by ERB to be occasionally useful, and by LEYDEN is pronounced a harmless placebo. BROWN-SÉQUARD urgently recommends **ergot** and **belladonna**, to lessen congestion and reflex irritability. He gives from five to seven grains of ergot twice a day, and applies a large belladonna plaster to the back, or gives the extract of belladonna internally in doses of gr. $\frac{1}{4}$, twice a day. **Iodide of potassium** has proved useless, and even in syphilitics its value is limited. **Arsenic** is also useless. **Strychnine** is almost always objectionable.

The general management, the diet, and the mode of life, are of essential importance. Rest and a regular life are needful, over-work of every kind must be avoided, sexual intercourse must be strictly limited or stopped, and violent emotion prevented. Plenty of nourishment should be given, together with cod-liver oil. Spirituous drinks can only be allowed in small quantities, and strong coffee, tea and cigars must be avoided. The bowels must be kept open by laxatives and enemata. The patients should be kept in the open air as much as possible. A prolonged sojourn in the lower mountain ranges or at the sea-coast is useful. Care must be taken not to unduly prolong the exercise, as a too long walk has caused a relapse. Weakness and stiffness cannot be removed by forced exertion.

Patients who are bed-ridden must not lie always on the back. A wheel-chair will give fresh air and some exercise to these cases. The same care as in acute myelitis is needful to prevent cystitis and bed-sores.

For the pain we may use hypodermics of **morphine**, if the bromides, quinine, zinc and valerian fail. Counter-irritants, the faradic brush, compresses, chloroform and veratrine locally, often do good. For the other symptoms and the sequelæ, **electricity** is the sovereign remedy.

SPITZKA speaks favorably of **warm baths** and warm climates.

SPLEEN, ENLARGEMENT OF; or Ague Cake.

HILL recommends the following:—

℞ Quininæ sulph.,.....gr. ix
 Sodii hyposulphit.,.....gr. xvj
 Acid. sulphurici arom.,.....gtt. vj
 Aquæ,.....f℥ j

M. S.—A teaspoonful every two hours to a child.

DA COSTA prefers the hypodermic injection of **ergotine**, gr. iij to v, daily.

GAZZO injects the ethereal fluid extract of **ergot**, mixed with half its bulk of glycerine, directly into the spleen itself. Two syringefuls are used at one time, and the operation repeated daily. The more deeply the syringe enters, the less is the pain.

MOSLER substitutes the injection of **carbolic acid**, in two per cent. solution, and Fowler's solution of **arsenic**, one part to ten of distilled water. The acid, however, caused so much pain that he discontinued it; but the arsenic was repeated a number of times and caused a diminution in the size of the organ.

WILLIAMS believes that the **bromide of potassium**, given in full doses, reduces splenic hypertrophy remarkably.

BARTHOLOW attributes the same power to the following:—

℞ Ammonii iodidi,.....℥ j
 Liq. potas. arsenitis,.....f℥ ss
 Tinct. calumbæ,.....f℥ ss
 Aquæ,.....f℥ jss

M. S.—A teaspoonful three times a day.

McGUIRE reported good results from the use of **strychnine** in doses of gr. $\frac{1}{16}$, three times a day, with iron and quinine.

EVERS obtained the best results from the juice of unripe papaws, (carica papaya.) A teaspoonful was given each day, mixed with sugar and divided into three doses. Twenty to twenty-five days sufficed for a cure in nearly all cases.

SKOREZEWSKY employed **faradisation** with benefit.

Acupuncture is successfully employed in India.

GADBURY spoke highly of the **oxy-sulphide of iron**:—

R Ferri sulphat.,.....℥ j
 Acid. nitrici,.....f℥ j
 M.—Stir until effervescence ceases and then add:
 Aquæ,.....f℥ iv
 S.—Liq. ferri oxy-sulph.

R Liq. ferri oxy-sulph.,.....f℥ iij
 Aq. cinnamomi,.....f℥ viij
 Quininae sulph.,.....℥ ss
 Potass. nitrat.,.....℥ ijss
 M. S.—A tablespoonful four times a day.

PHARES recommended the root of *ceanothus Americanus*; giving an ounce of a saturated tincture three times a day. The same tincture was also used locally.

MACLEAN found that of all remedies tried by him, none were as effectual as inunctions of the ointment of biniodide of mercury. A piece the size of a walnut is to be well rubbed into the skin, and the patient is to keep the part exposed before a warm, open fire for some time after.

Cold douches upon the enlarged organ are also useful. Whatever treatment is adopted, it will generally be found advisable for the patient to remove from a malarial district, and to take quinine, iron and arsenic, in efficient doses, long continued.

R Quininae sulph.,.....℥ j
 Ferri sulph. exsic.,.....gr. clx
 Acid. arseniosi,.....gr. viij
 Ol. piperis nigr.,.....℥ xx
 M. Ft. mas. et in pil. no. clx div.
 S.—One pill three times a day.

STERILITY.

SIMPSON says that in commencing the treatment of any case we must bear in mind that morbid conditions may be present in more than one of the planes of the sexual system, and that we

must begin with the removal of the obstacle that lies nearest the surface. Urethral caruncles and other sensitive structures in the vulva must be cut off or cauterised. Contractions of the vaginal orifice or canal must be stretched; and where there is complete atresia an aperture must be formed and kept patulous. Stenosis of the uterine orifices may be overcome by temporary dilatation with a tangle tent, which the writer has more than once seen followed by impregnation. Where such dilatation fails, the os may be dilated more permanently, by the uterine dilator, or by dividing the cervix at both sides, or in one or other lip, with a hysterotome. The deviations of the uterus must be rectified; versions, after replacement, being usually retained by some modification of Hodge's pessary; flexions demanding in addition the use of an intra-uterine stem. The stem pessary of zinc and copper introduced into the interior, is the best means of stimulating to its full function the imperfectly developed uterus, and the uterus which has withered from superinvolution. Morbid conditions in the interior of the uterus require direct applications to its cavity. And, as in a large proportion of the cases, some inflammatory mischief complicates the other morbid condition, it is often helpful to the cure to make the patient use hot douches and baths, and the internal remedies which tend to remove the effects of inflammatory action. It is to the beneficial influence which the waters of Ems, Aix, Kissingen, and other spas exert on chronic metritis, that their reputation for curing sterility is mainly due. In cases where the natural method of getting spermatozoa brought into relation with the ova has failed, success is said to have followed the introduction of seminal fluid by means of a fine syringe and tube into the cavity of the uterus—a line of treatment legitimate, it may be, but only to be followed in quite exceptional circumstances.

The first point is to ascertain whether the sterility is due to the husband or to the wife. In the former case, strictures must be dilated, morbid states of the urethra removed, and if the semen be too thick, a few drops of warm water injected into the vagina immediately before or after coition. Any other alteration from the normal condition in the male must receive its appropriate treatment. The same general rule holds good in case the difficulty

be dependent on the wife. Any affection found must be treated. Perhaps the most common cause is endometritis, cervical or corporeal, due to the improper use of the syringe and other preventives of conception. Stenosis of the uterus is now treated almost exclusively by the dilator; the use of the hysterotome having become obsolete. Intra-uterine stems are best let alone, unless the physician is well versed in their uses and dangers. The galvanic stem is of little value, as it causes such a uterine catarrh as soon necessitates the removal of the instrument; and then the catarrh must be cured. The wearing of any ordinary pessary for a long period induces growth and development of the infantile uterus; but the most certain remedy is marriage, with consequent sexual intercourse. In the very rare cases in which semen is to be injected into the uterus, great care is to be taken; as this substance is exceedingly irritating to the womb, and apt to induce very severe uterine colic. Half a drop is usually as much as can be used at one time.

Patients who are anxious to have children should be cautioned against excessive sexual indulgence, as this is sure to defeat the object. The period immediately following menstruation is almost universally looked upon as the time when pregnancy is most likely to follow cohabitation; but this rule has many exceptions. We have been assured by some of the best of observers, physicians, that maternity was only possible to their wives when intercourse took place during menstruation. But the difficulty of securing accurate information on these subjects, and of eliminating all sources of error is so great, and the tendency to deduce general laws from isolated phenomena is so prevalent, that we must put all such theories in the same category as that of Ovid.

STOMACH.—DISEASES OF.

1. ATROPHY.

FENWICK says that the most important point in treatment is the regulation of the diet. As there is usually a great distaste for animal food, the ingenuity of the practitioner is often severely taxed to discover some form of food likely to furnish albumen to the system, which the patient can be prevailed upon to take. The

articles of diet that usually agree best are mutton, fowls, game, soles, whiting, haddock, and oysters. It is often necessary to order that the meat should be beaten up, or minced, so that it may be swallowed quickly. Milk and eggs, where they agree, are invaluable, and in the later stages soups and animal broths may be substituted for solid food. In some cases gluten bread and gluten chocolate answer well. Other articles of diet, composed of starch and sugar, are usually more readily taken, and more easily digested.

As regards medicines, **iron** in all shapes is beneficial. It may be combined with **strychnine**, quinine, or other bitters, according to the circumstances of the case. **Arsenic** may be used with advantage, but it will be found a good plan to alternate it with other tonics. Pepsin is often prescribed, but it does not produce much benefit. Acids are often valuable, the most useful being the hydrochloric and phosphoric. They are best given, it is said, shortly after a meal.

Change of air, traveling, and freedom from the cares of business, are generally of more use in retarding the progress of the disease than any drugs we can prescribe.

Where the aversion to animal food has become unconquerable, the patient may be fed by the stomach-tube.

2. CANCER.

FRIEDREICH gave twenty to thirty grains of **cundurango** three times a day in one case, and found the epigastric tumor and the glandular enlargements disappear in a striking manner; and the improvement continued at least six months. LEUBE tried it once with no benefit. RIEGEL gave it in six cases, but found no other virtue in it than that of a powerful stomachic tonic.

By way of prophylaxis LEUBE recommends energetic treatment of all gastric catarrhs occurring in old people. The diet should be regulated so as to control the vomiting, to alleviate the pain, and to check the cachexia. OPPOLZER says that in many cases cold food will be retained when warm food will excite vomiting. The inclinations of the patient should in all cases be consulted, and any food he desires should be given. If vomiting continue, let the stomach rest, and give rectal injections of meat and pancreas. For obstinate vomiting he recommends:

R. Morphine muriat.,.....gr. jss
 Aquæ laurocerasi,.....fl. ʒ v

M. S.—Fifteen drops to thirty in the attack.

Cold is best employed in the form of compresses to the abdomen or epigastrium. Pellets of ice, carbonic acid drinks, Seltzer water, or champagne may be tried.

The relief of pain demands the bold use of narcotics. **Morphine** may be given hypodermically or by the mouth, in doses sufficient to relieve pain and give sleep. For the relief of pyrosis, antacids may be given, and for fermentation either creosote, half a drop, or benzine, seven minims at a dose.

If the stomach be dilated, the stomach pump may be used once daily. This measure relieves the acidity, fulness, and distress, reduces the dilatation, and prevents hemorrhages by removing the acid corrosive substances, and thus lessening the destruction going on at the site of the cancer. The same measure relieves the constipation. When the stomach pump cannot be used, constipation can be relieved by enemata. Flatulence may be arrested by purgative enemata or by **oil of cajeput** in one to three-drop doses, on sugar or in pill. Dropsy is best treated by diuretics, such as the acetate of potassa fifteen grains every two hours.

DUJARDIN-BEAUMETZ calls special attention to the fact that even in the most prolonged cases of cancer we can preserve the functions of the digestive organs almost intact. He cites a case in which a patient was kept alive for a month upon hard-boiled eggs alone. In another case, under the influence of **lavage** (washing out the stomach with the stomach-pump), the patient so far recovered that she was able to take her nourishment by the mouth for a year before she finally succumbed. He urges that the physician should be guided by the desires of the patient, taking care that the aliments are pure, and insisting that vegetables and starches are given, rather than albumen and fats. He excludes the latter because the gastric juice, in losing its hydrochloric acid, loses the power of digesting these aliments. They may, however, be used if hydrochloric acid be given at the same time.

3. DILATATION OF THE STOMACH.

LEUBE says that occasionally tonics are indicated. As glutony is often the cause of the disease, food should be given in small

quantities, and such as is easily digested, while the use of fluids should be restricted. By the systematic washing out of the stomach by the pump, the treatment of this disease has become a rational one, and all other remedies sink to the second or third rank. As the complete removal of all the contents of the stomach is the object to be obtained, that instrument is to be preferred which most certainly attains this result. The pump should be used for ordinary purposes (by the physician only), and the siphon when the contents of the viscus are fluid only.

This operation prevents further distention of the stomach walls, it relieves the mucous membrane of a source of irritation and it prevents decomposition of the contents of the stomach. The stomach becomes again able to absorb the products of digestion, and the nutrition improves. The vomiting and constipation are relieved, and as the nausea, heartburn, vomiting and fulness rapidly disappear, there is a striking improvement in the subjective condition.

It must not be forgotten that in cancerous or cicatricial stenosis of the pylorus, or in irreparable degeneration of the stomach walls, some relief will be obtained but no cure can be expected.

The existence of recent ulcers, or an unconquerable repugnance to the operation on the part of the patient, or intense alarm and spasm excited by the effort to introduce the tube, contraindicate its use. **Cathartics** are the best substitutes, as emetics never thoroughly empty the stomach. Surprising results are obtained from the use of **colocynth** or Carlsbad water. The latter also relieves the catarrh.

If anemia be present, he prescribes **hydrochloric acid**, to be taken a few hours after eating. Besides limiting the quantity of the food and drink, the diet must be dry and easily digestible. The patient should also wear an abdominal bandage, and should lie upon his right side. The **constant current** should be applied over the stomach. DUPLAY recommended *nux vomica* to restore the tone of the muscles. Bitter tonics may be used to promote the secretions, or cracked ice with milk may be given.

LOOMIS considers the diet, as above laid down, the most important part of the treatment. While advising the use of

lavage, he has not found it as useful as KUSSMAUL claimed. **Strychnine** should be used to overcome the paresis of the muscular coat. To prevent fermentation, the sulphites or carbolic acid may be used. Sugar and starch must be forbidden.

BOUCHARD limited the patient to ten ounces of liquid at breakfast, and at dinner. No drinks which have any tendency to ferment should be taken; red wine is forbidden, and the patient is allowed only a table mineral water, ordinary water with one-third part of beer, a glass of white wine, or a little coffee with brandy. He should not drink between meals. Fats should be given up; only crusts or toasted bread should be eaten; the repasts should be as far apart as possible, nine hours between breakfast and dinner, and five between dinner and supper.

DEJARDIN-BEAUMETZ divides these cases into two classes; those who have diarrhea and those who are constipated. For the former he orders a pure vegetable régime, composed of starches, of leguminous articles and of fruits. The starches should be taken in a state of purity, the legumes well cooked, and the fruits stewed. Meat and eggs are absolutely forbidden; for drink he orders Bavarian or Pilsen beer, or malt-beer (malt-extract?). He regulates the time for the meals, and allows ten ounces of drink at each.

To this régime he adds the employment of sulpho-carbonated water as an antiseptic:

R	Carbon. sulphid. pur.,	grm. xxv
	Ess. menthæ,	gtt. l
	Aquæ,	grm. cccc

This is put in a bottle of a capacity of five hundred grammes, shaken and allowed to settle. The water should be renewed as it is used. He gives during the day from four to eight spoonfuls of this water with or away from each meal, mixed in half a glass of milk or beer. For the cases attended with constipation he adopts the treatment of BOUCHARD; that is, he orders roast meats, toasted bread, and fruits; especially peaches and grapes. He also gives mild saline purgatives, especially the purgative waters. In all cases **hydrotherapy** renders great service. **Lavage** is indicated in all cases where the dilatation is very great.

KÜSTER disapproves of lavage, and recommends the use of muriatic acid, Carlsbad salts and **silver**.

BARTHOLOW advocates the use of *nux vomica* and *physostigma*.

Despite the enthusiastic utterances of LEUBE, lavage has not proved as valuable as he supposed. Many patients can not allow its use; and in others, no benefit accrues from even the careful and intelligent application of the method.

In one such case, after lavage had been thoroughly tried and dropped as useless, marked and lasting benefit followed the use of **rhubarb** and soda, oxide of zinc, and later **hydrastis**. The latter drug appears to have a distinct effect for good upon relaxed mucous membrane, wherever found.

The importance of a dry diet, restricted as suggested by DUJARDIN-BEAUMETZ, is very great. The great difficulty is to get the patient to adhere to it, as the enlarged stomach craves distention, and demands to be filled. Dilatation occurs also for the most part in drinkers of alcoholic liquors, and it is exceedingly difficult to induce these men to forego their accustomed libations. For both these purposes, i. e., to remove the sense of emptiness which leads to gormandising, and to remove the desire for liquor, we have recommended the chewing of **coca**, with the best effect. The drug is made into boluses, with gum and licorice, and chewed whenever the uneasy sensations are felt. **Phytolacca** appears to have some power in causing contraction of the dilated tissues.

4. ACUTE CATARRH.

LEUBE considers a well-regulated diet sufficient treatment in most cases. If the case be more serious, the patient should fast for a few days, or take food only by the rectum. If this be not required, the diet should consist of barley water, soft boiled eggs, beef tea, and the like.

The casual indication requires the removal of irritating matters by emetics and cathartics; magnesia being preferable for the latter. Emetics have the advantage of not allowing the noxa to irritate the bowels. **Apomorphia** is the best emetic, and may be

given by the mouth or hypodermically, in doses of $\frac{1}{12}$ to $\frac{1}{6}$ grain. The use of the stomach pump is still better, because it completely empties the stomach. The organ may then be washed out with a weak solution of soda. Caution should then be shown in resuming the ordinary diet.

If the catarrh be due to catching cold, sweating should be induced by the use of hot baths and wrapping in warm blankets.

For the treatment of severe cases, see article on Cholera Morbus.

In general, nothing more is needed in acute gastric catarrh than total abstinence from food for twenty-four hours, and the use of the following:—

R.	Ext. rhei fl.,.....	f3 iij
	Vin. ipecacuanhæ,.....	f3 ij
	Potass. carb.,.....	3 ij
	Aquæ, q. s. ad,.....	f3 iij

M. S.—A teaspoonful every four hours, in a cup of very hot water.

5. CHRONIC CATARRH.

LEUBE calls attention to the fact that the cause of gastric catarrh is frequently to be found in disease of the lungs, heart, and liver, tubercle, cancer, old age, Bright's disease, and the use of alcohol, which require their own treatment, and are often incurable. Still, this does not preclude a direct treatment of the gastric affection, with benefit which is more or less enduring as the case may be.

The first step is to stop fermentation in the stomach. **Creosote** may be given, in doses of half a grain, or **benzine** in twenty-drop doses.

Evacuants are more certain and more correct in principle. Catharsis is best obtained by the **sulphate of soda** waters, such as those of Carlsbad. If there be excessive flatulence, the Tarasp waters are preferable, on account of the large amount of **carbonate of lime** it contains. Enough must be given to produce several watery stools daily.

He prefers, however, to empty the stomach by means of the stomach-pump, or, if this be unavailable, by an **emetic** of ipecacuanha or apomorphine. This should be repeatedly practised.

The next indication is to preserve the mucous membrane from all irritation which may interfere with a cure. If the gravity of the case warrant such a procedure, all efforts at feeding by the stomach should be forbidden and the patient nourished solely by the rectum. Of nutritious enemata the pancreatic meat emulsion is to be preferred. CZERNY recommended the white of an egg, beaten up with one and one-half times its volume of water.

In milder cases it is sufficient to order an easily digestible diet. This should be the one which passes most quickly from the diseased stomach, which is of the blandest consistence, and, in a word, which least arouses the activity of the diseased organ.

Starches should be but sparingly admitted, or not at all. When used, the following list should be selected from: White bread, biscuit, rusk, asparagus, peas, young carrots and potato soup. Fats should be forbidden. Eggs may be eaten when soft boiled. Meat should not be too fresh. Among the most digestible are the white meat of fowls, the glands of young animals, young pigeons and sweetbreads. Boiled fish is also easy of digestion. Boiled veal is permissible. If the patient be unable to do without beef, it should only be taken when roasted rare. Milk is useful except in the cases in which it disagrees. The solution of meat devised by ROSENTHAL and himself is particularly commended by LEUBE.

In a few cases easily digested food does not agree. When the stomach has been weakened by the improper use of spices, these may be replaced by harmless substances, such as ice, alkalies or bitter tonics.

Stimulants had better be avoided; but if used, diluted **red wine** is the best. If stimulants be needed, they may be administered in enemata. Ice may be used to relieve thirst.

The **alkaline mineral waters** are useful, the various springs being suitable to the variety of phases presented by this disease.

Muriatic acid and pepsin are indicated when digestion is too slow, or the secretion of gastric juice is deficient. Bismuth and silver may be used when cases resist the foregoing treatment.

NIEMEYER recommends that the diet be prescribed as part of the treatment, as it is then more carefully observed. Some get

along well on concentrated, unskimmed meat broth, others do well on cold meat. Sometimes only meat which is salt or smoked is well borne, as the latter will remain long in the stomach before decomposing, and thus allow time for digestion. All food should be carefully chewed, and only small portions taken at a time. The exclusive use of milk, or better, of buttermilk, agrees wonderfully with some patients. The use of the **Carlsbad** water, with the regimen observed at these springs, furnishes the most brilliant results ever attained in medicine. If there be no constipation, soda water will often succeed as well.

If atony of the mucous membrane exist, the mild chalybeate waters are to be used, with slightly seasoned and salty food.

DUJARDIN-BEAUMETZ recommends the exclusive **milk diet**, as the most active curative agent in the chronic catarrh developed under the influence of alcoholic excess. In the first stage there is excessive secretion of acids, with waterbrash and heartburn, in the second the gastric juice is replaced by the production of mucus. In both periods he employs the milk diet, always adding to the milk the alkaline water or bicarbonate of soda.

In the treatment of this, the most common disease to which humanity is liable, the universal fault is to treat it as dyspepsia; a rarer affection, and one whose appropriate remedies, the tonics, do infinite harm in gastric catarrh. The mental and bodily depression characterizing gastric catarrh seem to point to the use of iron, mineral acids, quinine, alcohol and cod liver oil, all of which are harmful. Even in those cases which have commenced as atonic dyspepsia, and in which the catarrh is added subsequently, it is best to treat the latter affection before attempting to relieve the dyspepsia.

For fairly well nourished patients, the Carlsbad water or salt may be ordered at once. The following formula, taken from the German Pharmacopœia, gives an artificial salt which is for all practical purposes equal to the genuine:—

℞ Sodii sulphat. exsic.,.....part. xliv
 Potassii sulphat.,.....part. ij
 Sodii chlorid.,.....part. xvij
 Sodii bicarb.,.....part. xxxvj

Reduce to fine powder, and mix.

Of this salt, a small teaspoonful may be taken in a cup of hot water one hour before each meal. If the bowels should be moved too freely, lessen the dose. If the patient be feeble or anemic, the prescription of rhubarb, ipecacuanha and carbonate of potassa, given in the article on acute gastric catarrh, may be substituted.

These preparations, given in *hot* water, accomplish several objects. They cleanse the stomach and dissolve the unhealthy mucus which has collected there, and leave a clean surface for the food. They also stimulate the secretion of healthy gastric juice—particularly the rhubarb mixture. But it must not be forgotten that the long continued use of alkalies is exceedingly injurious, especially in causing destruction of the red blood corpuscles. We fear our German friends forget this. At any rate they fail to emphasize the fact that the office of the alkalies is but to prepare the way for other and more curative remedies.

As soon as the catarrhal symptoms have somewhat subsided, the tongue cleaned, the breath become pure, the eructations of gas and sour liquid stopped, and the heartburn passed away, the patient should begin to take one of the following:—

R Argenti oxid.,.....gr. v
 Zinci oxid.,gr. xl
 M. et in chart. no. xx div.
 S.—One powder just before each meal.

R Tinct. hydrastis,.....fʒ iij
 S.—Thirty drops just before each meal.

The alkaline mixture is still to be continued, as it cleanses the stomach, and by this enables the other remedies to come into direct contact with the diseased mucous membrane. When it is not deemed advisable to give the alkalies any longer, the **hot water** may be continued alone.

In simple catarrhs the silver and zinc powders are to be preferred; but if the stomach be dilated, or if the catarrh be due to alcohol, or if the atony be very great, **hydrastis** will do better.

As a rule the alkalies should not be continued more than two to four weeks, except in plethoric persons, where their depletory effect is desirable. The hydrastis can be continued with benefit

longer than any tonic with which we are acquainted; in some cases, for many months. When it is deemed requisite to administer iron, bitters, or mineral acids, after the catarrhal symptoms have subsided, mild preparations should be preferred; such as the citrate or tartrate of iron, and infusion of columbo. Hydrochloric acid and pepsin may then be given after meals.

The cases in which cured meats agree best with the stomach are more numerous than any other class. Lean ham and smoked dried beef are better than cured fish. Other persons digest the pickled meats with more comfort than any other articles. As catarrh is frequently due to hurried swallowing of the meals, it is sometimes advantageous to prescribe such foods as cannot be swallowed without thorough mastication and insalivation.

"Scones," made of oatmeal and water, and baked on the hearth until they are the consistency of granite, are exceedingly useful. Hard-tack, egg biscuit, boiled whole wheat, and tough salt beef, are suitable in these cases. We have often longed to prescribe Friar Tuck's parched peas as a suitable diet. The patient must be warned not to drink while eating. Ice water and ice cream are responsible for many catarrhs in this country.

Well-dried and toasted stale bread can be eaten by most persons. Milk is by no means universally applicable. In many cases it cannot be taken at all; and it will often be found to ferment quickly in the stomach. It should never be taken ice-cold, or drank quickly. Buttermilk is the most generally useful form, if taken slowly, when perfectly sweet and fresh.

If there be much heartburn, subnitrate of **bismuth** is an excellent palliative. It may be taken in doses of five grains, whenever the pain or fulness is felt.

6. GASTRIC ULCER.

LEUBE's treatment is as follows: The patient is confined to bed, and active motion is avoided as much as possible. At night, a cold compress is applied to the epigastrium, or an ice bag if hemorrhage be threatened. During the first few days a tablespoonful of **Carlsbad** salt, in a pint of luke-warm water, is given every morning before breakfast. If this fail to properly evacuate the stomach, it is washed out with luke-warm water, by means of

the stomach pump. The diet at first consists of one pot of beef solution daily, representing half a pound of beef. To this he adds, at breakfast and dinner, some milk and a few pieces of rusk, which must be thoroughly masticated. The beef solution is taken pure, or in soup, with a little Liebig's extract and salt to the taste. All food should be taken luke-warm. In two or three weeks he gives the patient pigeon, potato purée, thick soups and wheat bread; and in one week more he returns to coarser food. With this treatment he finds morphine, silver and bismuth superfluous.

GERHARDT considered the **tincture of iron** the best remedy for relieving pain. He gave three drops, in a wineglassful of water, several times a day.

When the pain and tenderness are confined strictly to one spot, the continuous use of a small **ice bag** is to be commended. Flatulence may be relieved by **charcoal** or by the stomach pump.

Nothing relieves the vomiting so well as the strict observance of a suitable diet. Pyrosis calls for antacids. In chlorosis, the best chalybeate is the **lactate of iron**.

When perforation occurs, the only treatment is to produce euthanasia. The energetic use of **opium**, ice and the other measures of treating peritonitis are indicated.

DUJARDIN-BEAUMETZ approves of the plan devised by CRUVEILHIER, the "milk-diet in all its rigor, for if the patient depart from this régime, mortal hemorrhage may be produced." He quotes DEBOVE's proposition to neutralize the gastric juice and prevent stomach digestion by administering each day seven and one-half to ten drachms of bicarbonate of soda; but prefers the method of LUCCA, who mixes the milk with lime-water.

The ordinary diet should be but gradually resumed; giving first the starches, and then meat in the form of powder.

NIEMEYER spoke very decidedly of the benefit derived from the use of **morphine**. He said that the administration of the eighth of a grain is followed by the most marked relief; and that this is sometimes permanent.

It is only in a certain class of cases that the alkaline treatment is advisable: as many persons with gastric ulcer are too weak to endure any lowering measures. In fact, it may be considered certain that very often the ulcer is prevented from healing by the condition of imnutrition into which the hemorrhages and enforced starvation have reduced the patients. In all such cases, if it be necessary to relieve the stomach from the labor of digestion we may use the pancreatized meat per rectum, and have the body rubbed with warm cod-liver oil twice daily. Baths of warm milk, or sponging with the same fluid, are useful. The skin has far greater powers of absorption than is usually supposed; and a large amount of nutritious material can be introduced through this channel; especially if the material be applied warm and be well rubbed in. In females also, the vagina has been recently shown to possess absorptive powers exceeding those of the rectum. In some cases where patients have been unable to retain food in the stomach, it will be found that after the administration of **morphine**, gr. $\frac{1}{8}$, **iodoform**, gr. j-ij, or **cocaine**, gr. $\frac{1}{8}$, bland articles may be taken without exciting vomiting. With each of these three drugs we have succeeded in rapidly curing gastric ulcers; but each has failed in other cases. **Bismuth** in ten-grain doses is an excellent palliative, but **hot water** is better. A pint of hot water taken on an empty stomach, before each meal, is sometimes the only remedy to relieve pain. The drugs usually given for vomiting, creasote, hydrocyanic acid, chloroform, and cannabis Indica, are only additional sources of suffering. We have given Fowler's solution in half-drop to five-drop doses, in a number of cases, and have never obtained any benefit from its use.

The endermic use of morphine, uniting the effect of a blister to that of the narcotic, is sometimes of special value.

The pain is generally ameliorated when the bowels are freely opened; which may be done by giving an enema of cold salt water.

Although we are unable to account satisfactorily for its action, there is no doubt that the silver salts sometimes give marked relief. Less frequently, the same benefit is obtained from the salts of copper, zinc, or lead. These remedies are best suited to chronic cases.

STOMATITIS.

CLARKE recommends that the diet and the hygiene be first regulated. Small doses of grey powder, or of rhubarb and magnesia, should be given to regulate the bowels; while at the same time **chlorate of potassa** and cinchona should be used. Later, a course of cod-liver oil, iodide of iron or Parrish's chemical food should be given.

The mouth should be washed with borax solution, or if the breath be fetid, with myrrh or chlorinated soda.

For gangrene, or noma, he advises the strongest supporting measures, washing the mouth with disinfectant lotions, poultices to the cheek until the slough separates, and then dressing the raw surface with lotions of carbolic or nitric acid, or of sulphate of zinc. If the gangrene threaten to spread, the edges must be touched with strong nitric acid.

STARR directs for catarrhal stomatitis, that the mouth shall be washed every hour while the child is awake, with a solution of **borax**, or **chlorate of potassa**, ten grains to one ounce of rose-water. A teaspoonful of neutral mixture may be given every two hours if there be fever. When the tongue is heavily coated and the stomach disordered, he gives:—

R Sodii bicarb.,.....gr. xxiv
 Pepsinæ,.....gr. xij
 Pulv. aromat.,gr. iij

M. et in chart. no. xij div.

S.—One powder four times daily, in milk.

For aphthous stomatitis, he recommends careful attention to the apparatus used in feeding the child, and regularity in feeding. A dose of **ipecacuanha** may be needed to relieve an overloaded stomach; or a half-grain of **calomel** for constipation. If diarrhea be present he gives a teaspoonful of **castor oil** with five drops of paregoric, and follows with the alkaline syrup of rhubarb. The fever requires a hot mustard half-bath, with neutral mixture and perhaps a little **aconite**. Locally, he obtains the best results by touching each ulcer lightly with a point of lunar caustic. One application is often enough, or it may be repeated every day. The mouth is washed out with:—

R Potassii chlorat.,.....gr. xx
 Vin. opii,.....℥ v
 Glycerini,.....f 3 j
 Aq. rosæ, q. s. ad.....f 3 j

M.

When the fever has subsided he gives wine of **pepsin**.
 For ulcerative stomatitis, he recommends:—

R Potassii chlorat.,.....gr. xlvij
 Acid. hydrochlorici dil.,.....f 3 j
 Syrupi,.....f 3 ss
 Aquæ, q. s. ad.....f 3 ij

M. S.—A teaspoonful, diluted, every two hours.

If needed, half a grain of **quinine** may be added to each dose.

Locally, he uses:—

R. Potassii chlorat.,.....gr. lxxx
 Acid. carbolicæ,.....gr. ij
 Glycerini,.....f 3 j
 Aquæ, q. s. ad.....f 3 viij

M. S.—Apply to the ulcers thoroughly at least once every hour.

Iron and stimulants will be required in severe and protracted cases. The tincture is the best form of iron, and may be added to the acid mixture. Loosened teeth must be allowed to remain.

For gangrene, he considers it of the first importance to maintain the strength by concentrated liquid food, tonics and stimulants. If swallowing be difficult, enemata, suppositories of quinine, and stimulation by the rectum are necessary. The air of the room must be kept in a state of purity.

Early cauterization is recommended. Sloughs should be removed by scissors. The spot should be bathed with strong solutions of chlorate or permanganate of potassium, carbolic acid or chlorinated lime.

HENOCH speaks highly of the **chlorate of potassa** in cases associated with fetor. If an obstinate case resist this remedy he applies a solution of **sulphate of zinc**, one part to twenty of distilled water; or **sulphate of copper**, one part to forty of distilled water.

In ulcerative cases he uses decoction of cinchona, with chlorate of potassa, and lotions of carbolic or salicylic acid, or

permanganate of potassa. The extraction of loose teeth hastens recovery.

In gangrene, he advises the use of the **hot iron** alone, as soon as noma has developed. All the gangrenous tissue must be carefully removed. The use of antiseptic dressings, and lint dipped in camphorated wine should not be neglected.

VOGEL calls attention to the importance of removing the causes of catarrh of the mouth in adults; such as decayed teeth, or tobacco. In acute catarrh the mouth should be frequently rinsed with water or solution of **chlorate of potassa**, ten grains to the ounce of water. In the catarrh of drunkards, NIEMEYER recommended chewing a piece of **rhubarb** root before going to bed.

In some cases of aphthæ PFEUFER's method of rinsing with **corrosive sublimate**, one grain to ten ounces of distilled water, is of decided benefit. The chlorate of potassa has no decided action in these cases. For mercurial stomatitis, VOGEL recommends the chlorate as a prophylactic. If syphilis be treated by mercurial inunctions, and at the same time the patient take every hour five grains of chlorate of potassa, months may elapse without stomatitis being produced, unless there are carious teeth.

For noma he prefers the hot iron. LANGE employed **oil of turpentine** in a severe case, in which a part of the cheek was destroyed, as well as half the tongue. He laid saturated charpie upon the parts, and renewed the application every two hours. The result was surprising; the gangrene became limited, and cicatrization set in.

The introduction of **cocaine** and of **iodoform** has given us two valuable agents in the treatment of all the ulcerative affections of the mouth.

In chronic dry catarrh of the mouth, great benefit will ensue from chewing the root of **hydrastis**.

SUNSTROKE.

MACLEAN says that under the old treatment by venesection the mortality was very great. At the earliest possible moment the sufferer should be carried to the nearest shade, stripped, and assiduously douched with cold water over head, neck and chest. If this be effectually and quickly done, respiration will soon be re-established, and the heat of the skin reduced. The douching may require to be repeated several times. In hospitals it may be necessary to wrap the patient in a wet sheet and fan him vigorously.

The patient should drink freely. The douche may be abused if used too long on a shaven scalp. Nor should it be used too long when the skin is cold and clammy, and the respiration sighing. He then restricts the douching to the face and chest.

When the heat of the skin is excessive, PARKES suggests giving an enema of **ice-water**. Ammonia should be cautiously applied to the nostrils. The sooner the bowels are relieved the better. If the skin remain dry, Warburg's tincture may be tried. Support, and the judicious use of stimulants, must not be neglected. If sensibility be not restored by the douche, a **blister** should be applied to the neck, or perhaps to the head. In convulsive cases he warmly advocates the inhalation of **chloroform**.

LOOMIS speaks of the necessity of absolute rest and plenty of cool, fresh air. **Stimulants** are often necessary; if they excite vomiting, they should be given hypodermically, or by enema. Ether, musk, ammonia and turpentine are recommended.

In most cases the **cold-water** treatment is the best. Between the baths dry cups may be applied, and stimulants may be given during the bath if the pulse demand it. The patient should always be removed from the bath before the temperature falls to normal. Purgative enemata and stimulants, with the cold water, are all that is required where the temperature is below 105°.

Thermic fever demands ice-water to the skin, a brisk saline, and morphine with quinine hypodermically. Blisters are often beneficial. Severe brain symptoms are often relieved by the inhalation of ether or of chloroform. These cases should resort to a cool climate and refrain from active brain work.

WOOD remarks that when exposure to heat is imperative, all alcoholic, sexual and other excesses must be avoided, as well as great fatigue. The diet should be farinaceous and all the secretory organs kept in full operation. Large draughts of intensely **cold water** may possibly do harm, but small quantities, taken at short intervals, reduce the temperature and keep up free perspiration. The addition of **claret** is of service if stimulants be needed.

In mild cases the basis of treatment is the **cold bath**. GUITERAS wrapped the patient in a dry sheet, lifted him into a tub of water at 85°, and rapidly cooled this by means of ice. The immersion lasted fifty to fifty-five minutes, being regulated by the thermometer in his mouth. The patient was then lifted out upon a blanket, the skin partially dried and the body covered. A little whiskey and half a drachm of tincture of **digitalis** was given twenty minutes before the bath. Draughts are to be avoided, and the bath must be given in a small, warm room. The result was always a fall of the fever, of the pulse, and of the respiration, with refreshing sleep. After the second bath the temperature did not return to its former height. It was never necessary to give more than two baths in one day, but sometimes they had to be continued for many days.

In the severe acute form, no time should be lost. The clothes should be removed and cold affusions over the chest and body practised. The testimony in favor of **antipyrin** is so strong that it should always be employed as an aid to the cold water. Fifteen to thirty grains should be given at once, hypodermically. In convulsive cases, **morphine** has been frequently given at the Pennsylvania hospital, with excellent results. One-fourth of a grain may be administered hypodermically.

The directions issued to regimental officers for the treatment of cases of sunstroke in the British army in India, are as follows: The patient should be carried at once to a shady spot, stripped, wrapped in a wet sheet, and fanned, or the skin sponged with ice-water or alcohol and water, and fanned. A stream of cold water should be poured upon the head, and the patient should be given iced water freely. If the skin become hot and burning, when these applications are suspended, pieces of ice may be applied to the scalp, and rubbed over the body. On no account administer

alcohol or any other stimulant; but ammonia may be held to the nostrils.

The cold-water treatment is now the standard method employed in sunstroke. But the great majority of the cases reported as sunstroke are simply cases of heat exhaustion. Most of these are due to the immoderate use of beverages. When a man begins to drink ice-water before breakfast on a hot summer day, he is apt to keep it up all day long. Immoderate drinking causes free perspiration; and this in turn, increases the thirst. By this means an enormous amount of the saline elements of the blood are lost, and a condition of great weakness results. Nothing but absolute ignorance could mistake these cases, with an absence of fever, with a soft, compressible pulse, cool skin and utter prostration, for sunstroke. The treatment consists in rest, with the head lowered, and the administration of small and frequently repeated doses of hot beef-tea, well salted. Coffee, coca, tea, or ammonia may be given in the same manner. If the depression be extreme, **digitalis** is better than alcohol, though the latter may be more readily obtained. In avoiding all forms of sunstroke, it is our conviction, that the man who is exceedingly moderate in the use of liquids will be far safer, as well as infinitely more comfortable, than the one who is constantly at the ice-water cooler. Persons who have Bright's disease should beware of exposure to the direct rays of the tropical sun of our summers.

SYNCOPE.

BRUCE says that two indications are equally urgent; removal of the cause of faintness and restoration of the heart's action. The patient should be laid flat on the back, the free access of air should be insured, and the dress loosened at the neck, chest and waist. Hemorrhage must be stopped, if it be present. Cardiac stimulants should then be employed. **Alcohol** is the most generally available and the most powerful, and may be given in any form which is most quickly to be had, and in quantities to suit the case. **Ammonia**, ether, and cologne are equally useful. If the patient be unable to swallow, these drugs as well as warm

liquids should be given by enema, or ether may be injected hypodermically over the heart. Smelling salts, perfumes, fanning, cold douches, and spirituous lotions to the temples and hands are other means of exciting the heart reflexly. If these methods fail, frictions to the limbs and trunk should be used, with galvanization of the heart, and even transfusion of blood.

In cases ending favorably, the patient must not be too quick to resume the standing position too hastily, until rest and nourishment have been obtained.

ROBERTS states that fainting may generally be avoided by bending forward and hanging the head down between the knees. Besides the means recommended in the preceding extract, he suggests that the blood may be confined to the central organs by compressing the arteries of the limbs. This appears to us a very unsafe method, as the danger of coagulation of the blood is produced, if the compression be really efficient. Much better is it to lower the head and raise the legs and arms as high as possible, while stimulants are given by the mouth, by the rectum or hypodermically, and warmth is applied externally.

Artificial respiration may be necessary occasionally. The inhalation of **nitrite of amyl** is a most powerful remedy when it can be procured in time. Care should be taken not to allow ammonia to be inhaled in too concentrated a form, as serious irritation of the bronchial tubes may ensue.

SYPHILIS.

BAUMLER quotes a number of authorities who favor excision or cauterisation of the primary sore, and others who consider it useless. Still, he considers that positive evidence outweighs failures; and where the chancre is situated upon a convenient spot, it should be excised, if a papule; or cauterised with fuming **nitric acid** if an ulcer.

If the primary lesion be too far advanced when first seen, the parts affected should be simply kept clean and dressed with moist lint, which must be frequently changed. If there be much suppuration, a solution of **lead** or **copper** should be used. For

large, ulcerating indurations, mercurial lotions are advisable: such as "black-wash," made by adding three to eight grains of calomel to an ounce of lime-water.

Phagedena is best treated by permanent baths, with irrigations of **permanganate of potassa** solutions. Opium is only of service in securing rest. **Iodoform** is much used, dusted upon the sores. Complications are to be treated upon surgical principles.

While admitting that certain forms of syphilitic disease sometimes undergo spontaneous cure, he says that the results do not compare with those obtained from the proper use of **mercury**. This remedy has a local action as well as a constitutional effect, and a number of observers have noted the rapid effects of its local application to syphilides, and condylomata, while other lesions not directly treated remained unaffected. Even HUTCHINSON (who formerly denied it) now admits that if mercury be given at the start, the disease may be cured in the primary stage. Salivation interferes with the action of mercury, and is to be sedulously avoided.

The claims of guaiac, sarsaparilla and similar drugs, he considers to be based on the fact that the stimulant effects they exert on the secretory organs, with the accompanying low diet, causes the symptoms of syphilis to disappear for the time, in the same way as an attack of cholera produces the same result. But no permanent advantage is derived from this method of treatment. The **iodides** exert their force mainly on tertiary lesions, gummata, tubercular syphilides, serpiginous ulcers, diseases of the bones and periosteum, and disorders of the nervous system; while secondary syphilides are not affected by them at all. ZEISSL claims that **iodine**, in doses of two minims of the compound tincture, twice daily, causes a more rapid disappearance of mucous affections than mercury does. Moreover, after the use of iodine, a more pronounced effect is obtained from a subsequent course of mercury. BAUMLER urges that mercury be commenced as soon as the diagnosis of syphilis is made.

If the syphilis be destroyed in the primary lesion, a treatment of four months may suffice; but if secondary symptoms appear it should be prolonged to six or eight months. If due

care be shown, the course need not be interrupted. Nothing but the slightest grade of mercurial stomatitis should be allowed to arise. The treatment must be continued for months after all manifestations of the disease have disappeared.

FOURNIER gives mercury for three months and then suspends it for one month; resumes the drug for two months, then stops it for three months; so that during two years the patient has taken the mercury for ten months. BAUMLER adds that sometimes in obstinate cases, especially such as are not brought under treatment until a late period, if the patient take a two-weeks pleasure trip without any treatment, mercury displays an increased power when resumed.

In the eruptive stage, patients should be confined to their bed for a few weeks. Quiet should be maintained during the remainder of the treatment, but patients should be allowed to go about in good weather. They should go to bed early, wear flannel, and, in general, observe the rules of personal hygiene carefully. Beer and wine may be taken moderately, but spirits avoided. Milk appears to have a favorable influence on the course of the disease. Acid fruits which would cause gastric catarrh are to be avoided. The mouth should be rinsed with tepid water morning and evening, after meals and twice at night. The teeth should be carefully brushed twice daily. Myrrh may be used with advantage in the water for cleaning the teeth. **Chlorate of potassa** may be used as a mouth wash and taken internally.

The patient must give up smoking, to avoid salivation; especially if the mouth be affected with syphilis. Warm baths have a favorable influence.

He prefers the use of mercury by inunction. Fifteen to thirty grains of mercurial ointment are rubbed into the skin, the first day on the legs, the second on the thighs, the third on the abdomen and chest, the fourth on the back, and the fifth on the arms; then begin at the legs and repeat the same round. The rubbing should continue for ten minutes. The hand should be smeared with soap before rubbing, though there is little risk of mercurializing the person who does the rubbing. A warm bath should precede each inunction. This may be continued for

months. If stomatitis occur, the inunctions should be discontinued, the chlorate of potassa used locally and internally, and the gums brushed with a stronger astringent solution, or touched with nitrate of silver; the teeth being avoided and the mouth washed afterwards with salt water.

The inunction method is preferred wherever the state of the intestinal canal forbids the internal use of mercury, and when the effect is desired as quickly as possible; as when the brain, the eye, or the larynx, is threatened. It is contra-indicated when there is a tendency to eczema or acne, in hairy persons, or those who have much eruption, or pustules. LEE praised the use of calomel by **fumigation**. Eight grains are used at one time, the patient being stripped to the skin, and surrounded with a tent of flannel. The calomel is deposited on the skin and is not to be rubbed off.

Baths of **corrosive sublimate** are of use for small children, with pustules, especially. Half a drachm may be dissolved in the bath, which should be continued half an hour. ZEISSL adds two-fifths this quantity of sal ammoniac.

Internally the best remedies are mercurial pill and mercury with chalk. Five grains may be given daily, alone or with opium. LEBERT gives mercurial ointment in suppository. LEWIN uses mercury hypodermically; but the severe suffering more than counter-balances the advantages of this method.

BIETT and CAZENAVE use the following:—

R Hydrargyri protiodid.,..... gr. viij
Lactucarii,.....gr. xxiv

M. et in pil. no. xx div.

S.—One pill, twice or thrice daily.

SEBILLOT's pills, used in France as the standard preparation of mercury for syphilis, are composed of mercurial ointment, soap and marshmallow powder.

VAN SWIETEN's liquor is made by dissolving one grain and a-half of corrosive sublimate in three fluid ounces of corn whiskey. The dose for internal use is one drachm.

GIBERT prescribed:—

R	Hydrargyri biniodid.,.....	gr. $\frac{3}{4}$
	Potassii iodid.,.....	gr. xxxviii
	Aquæ dest.,.....	℥ lxxx
Misce, filt. et add.,		
	Syrupi,.....	f℥ j
	Aquæ dest.,.....	f℥ iv
M. S.—	f℥ ss, twice daily.	

The iodides of mercury are specially useful in relapses of the cutaneous manifestations, especially of the squamous variety, and palmar papules; also in tubercular eruptions and in tertiary manifestations, with the iodide of potassium. Mercury is contra-indicated in but few cases of syphilis. Chronic lung diseases do not absolutely forbid this treatment. Cases of chronic albuminuria, unless due to syphilis, are unsuited to mercurial treatment, as salivation is very quickly induced. Preference should be given to iodine and the vegetable specifics.

Anemia is very often due to the syphilis, and improves very rapidly under the influence of mercury, while iron has no effect. This is not the case when syphilis attacks a chlorotic person. In such cases iron should be administered until distinct evidences of syphilis appear; and in some cases, quinine and cod-liver oil should be used together with mercury. Pregnancy does not contra-indicate mercury; least of all in the early months, for then this drug may prevent abortion, or even contamination of the fœtus or of the mother. Von SIGMUND recommends it only up to the seventh month.

The **iodides** are best suited to cases showing affections of the bones, rheumatic symptoms, pustular eruptions, and serpiginous ulcers, or dry tubercular syphilides. Even if such symptoms occur early, or in ulcerative stomatitis with rapid breaking down of tissue, this remedy has a very striking influence. Degenerative gummata and destructive ulceration of the throat and larynx also call for its administration.

PAGET and HUTCHINSON recommend that this remedy should always be given with ammonia. Patients usually increase in weight while taking the iodide. A good and rich diet should be given to cachectic patients.

Three to five grains of iodide of potassium may be given to patients who have not previously taken it; to others, or where it is desired to check an ulcerative process as quickly as possible, the dose may be increased to fifteen grains. It should always be given well-diluted, after meals. It may be given in very large doses for a very long time without causing any ill effects. The effects are, however, not lasting; and a speedy recurrence will take place if the remedy be discontinued too soon.

In convulsive cerebral affections the bromide of potassium was joined to the iodide by HUGHLINGS JACKSON.

The iodide of sodium or of ammonium may be substituted for the potash salt, if the latter disagree.

If anemia call for ferruginous preparations, BAUMLER prefers a mixture of the iodide of potassium with the ammonio-citrate of iron, rather than the iodide of iron.

When tertiary cases resist the action of the iodides, a cure may be obtained by the use of mercury or of the vegetable decoctions.

During the secondary stage, these decoctions may be used as adjuvants to the mercurial treatment, and in the tertiary stage, if the disease be advancing rapidly, their use with the iodides is often attended with happy results. In the morning the patient should take from eight to sixteen fluid ounces of Zittmann's strong decoction,* and in the evening a quart of the weaker preparation. The patient should pass the greater part of the day in bed. The diet must be nutritious.

Condylomata may be treated by the application of calomel, one part to eight of lard, or dusted over the surface of the warts, which should first be moistened with salt water. Cleanliness and

* KEYES, finding the original formula for Zittmann's decoction too clumsy for practical use, prepared the following modification, which he finds to answer every purpose of the original:

R	Hydrargyri chlorid. corros.,.....	gr. j
	Aluminis,.....	3 ss
	Ext. sarzæ fl.,.....	f 3 ij
	Glycerini,.....	f 3 j
	Syr. sennæ,.....	f 3 jss
	Sp. anisi,.....	f 3 j
	Ext. glycyrrhizæ,.....	3 j
	Aq. fœniculi, q. s. ad.....	f 3 viij
M. S.	f 3 ss at each dose.	

the use of charpie moistened with carbolic acid solution or black-wash, promotes the absorption of moist papules. If they cause much pain, a solution of **nitrate of silver**, one grain to the ounce of distilled water, is of use.

Severe ulcerations of the mouth may be repeatedly touched with the mitigated nitrate of silver, with an alcoholic solution of carbolic acid, or with tincture of iodine.

Affections of the nasal passages require thorough cleansing with solutions of carbolic acid or permanganate of potassa. It is not always easy to tell whether antisyphilitic treatment is needed in these cases. In early syphilis mercury will usually be of use; but if the bones be affected, the iodides are preferable. Calomel may also be used as a snuff. If syphilides be entirely isolated, they may be removed by local treatment alone. Mercurial plaster, or inunctions of ammoniated mercury or of oleate of mercury, or hypodermics of calomel into the centre of the affected patch sometimes suffice.

Serpiginous ulcers are often treated with difficulty. If the crusts be thin and superficial, with little secretion, they should not be disturbed. If they be exposed to friction, they may be protected with plaster. Small, round ulcers, are best treated with black-wash or with ointments of red or white precipitate. ZEISSL recommends **iodoform** for torpid ulcers, and LANCEREAUX found the same remedy useful in serpiginous ulcerations.

Painful periostitis may be relieved by the local use of iodine, or of oleate of mercury and morphine. This is also useful when rubbed over swollen joints. RICORD advises flying blisters over painful nodes. Syphilitic testicles should be enveloped in mercurial plaster or oleate of mercury. In all cases of iritis a solution of **atropine** should be dropped into the eye, and mercurial treatment instituted. If the inflammation be severe, leeches should be applied to the temples, and the mercury pushed to slight salivation. Choroiditis and retinitis also indicate prompt and vigorous mercurial treatment.

Mercury is the leading agent in the treatment of hereditary syphilis. Besides the ordinary methods of exhibiting the remedy, a flannel compress smeared with mercurial ointment may be applied to the child's breast or back.

No benefit is to be obtained from administering the mercury to the mother or to the animal which furnishes milk for the child; as the amount of the metal which passes into the milk is too slight.

In most cases the proper treatment will be aided by removing the patient from his usual mode of life. For debilitated patients, a winter in the South, or a summer in the country, will be found extremely beneficial.

Some physicians believe that the internal and external use of **sulphur waters** prevents too active effects of a mercurial course. The results obtained at Aix-la-Chapelle render it likely that this is of advantage, but the question is not settled. The idea that the use of sulphur constitutes a test of the completeness of the cure, by causing an outbreak of syphilis if it be still present, has been practically abandoned.

Syphilization is now but a therapeutic curiosity.

BALZER has very recently proposed the subcutaneous injection of **calomel** mixed with vaseline, in the proportion of one part to twenty. From three-eighths to three-fourths of a grain of calomel were injected at each operation; which was practiced once a week. These injections were almost painless, and were not followed by irritation or by abscess. Cases which had resisted the internal and external use of mercury were promptly cured by these injections.

DAVIS recommends the following combination very highly for all forms of constitutional syphilis:—

R	Hydrargyri chlorid. corros.,.....	gr. jss
	Sodii iodid.,	3 iv
	Ext. conii fl.,.....	f 3 iv
	Elix. simp.,.....	f 3 ivss

M. S.—A teaspoonful in water four times a day.

The late MARION SIMS recommended the use of **McDade's Elixir**, a compound of stillingia and other plants. The effects of this preparation do not differ from those of Zittmann's decoction, and are due to the stimulation of the secretions which is caused by its use.

GROSS preferred the use of **corrosive sublimate**, with **iodide of potassium** and syrup of sarsaparilla; and his formula is probably more generally used in America than any other.*

KEYES, after reviewing the later writings on syphilis, comes to the conclusion that the testimony favors a reduction in the amount of mercury used.

The Hot Springs of Arkansas have become very popular of late; but KEYES thinks the specific virtues reside in the mercurial inunctions practised there, as the waters are poor in mineral ingredients. He favors the use of **mercury** in moderate doses, and extends the treatment into the fourth year. He gives the protochloride as prepared by Garnier and Lamoureux, in granules containing one-sixth of a grain each. Of these he gives one after each meal, adding one every four days until the poisonous effects of the drug are manifested. This "full dose" is only to be used in cases of necessity. It may be taken for some time without injury, with the aid of a little opium, drinking milk and eating rice. One-half of the full dose is a "tonic dose," and this may be continued for years; apparently to the patient's advantage, as his blood becomes richer in red corpuscles. Of late years he has preferred to give but one-third of the full dose.

If the symptoms be pressing, the patient is to be rapidly brought under the influence of mercury.

It is not deemed advisable to quote further opinions on this subject, as there is practically but little difference. Each author prefers the preparation of mercury with which he is most familiar. Those who have seen an unusual number of cases in which this drug has been abused favor the substitution of the iodides, or of the vegetable decoctions. The latter are of use in chance cases, but are not to be depended upon.

Some prefer to give mercury by FOURNIER's method, *coup sur coup*, and others give it persistently from the beginning of the treatment to the end. The question as to which of these methods is preferable will be decided by the view taken of the nature of the action which mercury exerts upon syphilis.

*Although this formula is very frequently prescribed, the mercurial is incompatible with compound syrup of sarsaparilla.

The only rational explanation we have ever met is the following: The specific virus of syphilis resides in the tissues formed under the influence of this disease; such as the enlargements of the lymphatic glands, condylomata and gummata. Now, it is well known that these syphilitic tissues have a lower grade of vitality than the normal tissues. Syphilitic neoplasms very often break down spontaneously.

Mercury hastens the breaking down, absorption and excretion of these syphilitic tissues. The same drug possesses a like power over the normal tissues of the body, but on account of the greater resistance of the normal tissues a larger dose of mercury is required to destroy them than to similarly affect the syphilitic tissues. Hence, *the aim is to give as large a dose of the mercurial as possible, which will yet be too small to affect the healthy tissues.* This may be done by keeping just within the point of salivation. For instance, we give the mercurial in gradually increasing doses until slight signs of salivation appear. The dose is then lessened a little, but continued steadily for the requisite period.

We prefer the blue pill, believing it to be the most manageable and least irritating of all the mercurials. We give it in doses varying from ten to thirty grains every day, divided into many doses; combining with it the extract of cinchona, Vallet's mass, or a small amount of opium if there be a tendency for the medicine to run off by the bowels. It is not enough to continue this treatment until all visible signs of the disease have disappeared. There will be still remaining enough of the disease to reproduce the symptoms; and the mercurial must be continued until there is not a solitary cell in the body which can be possibly contaminated with syphilis.

Abundant experience has convinced us that a well-arranged and properly supervised course of this kind is devoid of danger to the health. Patients usually improve in every way while taking the medicine. The appetite becomes enormous, the skin becomes clear and healthy, and all the bodily and mental faculties appear to be in a state of the healthiest activity.

The value of the iodides is most clearly shown in cases of threatened cerebral syphilis. It must not be forgotten that when damage is once done to the nervous tissue, it cannot be repaired

by any medicines. The destruction of cerebral tissue must be prevented, and for this purpose enormous doses of the iodides are indicated. From one to four drachms of the **iodide of potassium** may be given during twenty-four hours; and **mercury** used at the same time by inunction, by fumigation, and hypodermically; the latter as near the seat of the local lesions as possible.

The local use of mercurial preparations for the cure of condylomata and the syphilides should always accompany the general treatment.

Prophylaxis. BAÜMLER urges that prostitutes should be under government supervision, and should be compelled to enter a hospital whenever they become syphilitic, and to stay there until cured. This would render them powerless for evil until the danger has passed away. Men who work in glass-blowing establishments have demanded an examination of their own accord, as the danger of contamination is great, when the tubes used are passed from mouth to mouth. Sailors should be subjected to the same precautions before being allowed to go on shore, as they very frequently transmit this disease. Surgical appliances, towels, cups, and other utensils used by syphilitic persons should not be touched by others; at least, not unless perfectly cleansed.

In the choice of wet-nurses the greatest care should be exercised, as well as in the selection of infants from whom vaccine virus is taken. The question of marriage for syphilitics, and the dangers of matrimony to the community as well as to the wife and to the prospective family, have been taken up and most vividly portrayed by FOURNIER. His advice is that no syphilitic should marry until thorough treatment has resulted in a cure, which has persisted at least three years after the last manifestation of syphilis has been evident.

If, despite the advice of the physician, such persons persist in entering into wedlock, the wife must be watched carefully, and whenever pregnancy occurs, be placed upon an efficient mercurial course.

TAPE WORM.

TROUSSEAU recommended that the effort to expel the worm be made at the period when joints are being expelled naturally.

The patient should be put upon a milk diet the previous evening, with thin soup and fruit. The next morning an enema is to be given. Then the patient is given capsules containing seven and a half grains of extract of **male fern** and three-fourths of a grain of **calomel**, repeated every ten minutes until eight doses have been taken. Two hours later the patient begins to purge, and at the second or third stool the worm is passed. The precaution should be taken to have the patient evacuate his bowels in a bucket of water, that the worm may be floated up and preserved from breaking.

BURGNÈRES states that the Abyssinians use **koussou** simply as a palliative. They take a dose every month to prevent the worm from reaching a large size. When they wish to rid themselves of the worm entirely, they take three or four ounces of **moucenna** bark, well powdered and mixed with honey, having fasted the previous day. The powder forms a soft magma with honey, which is difficult to swallow, causes disgust and often vomiting; this is the only annoyance caused by the **moucenna**.

COBBOLD finds no other remedy equal to **male fern**.

HELLER recommends that the intestines be cleared out for two days before the specific remedies are given. Only the mildest laxatives and enemata should be used for this purpose. During these two days the food should be only of such articles as furnish very little residua; such as meat, white bread, milk, coffee, wine, beer and tea.

On the evening preceding the cure, the patient ought to eat a plate of herring-salad, composed of finely-cut salt herring, not previously steeped in water, with plenty of onions and garlic.

The next morning the patient may take a cup of coffee with a little white bread, which lessens the tendency to vomit the medicine. One hour later he takes a dose of **koussou**, five drachms for a *taenia solium*, seven and a half for a *saginata*.

The dose is to be taken within an hour. It may be enclosed in gelatine discs. Any inclination to vomit must be repressed, and small pellets of ice or sups of coffee aid in steadying the stomach. Two hours after the last of this dose has been swallowed, a small dose of castor oil may be taken.

When the worm has been passed, the patient may take some mucilaginous soup, with a few drops of laudanum.

FRIEDREICH recommended the picronitrate of potassa, in doses of five grains three times a day.

MOSLER gives **benzine**, twenty drops in capsule every hour until the worm is expelled.

He also uses large enemata of warm water, after the administration of an anthelmintic. A laxative having emptied the bowels, a dose of extract of **pomegranate** bark is given, prepared from the fresh bark.

DICK urges that the dose of extract of **male fern** should be two drachms. He gives it at 11 P. M., and follows it the next morning with half an ounce of turpentine.

BOURDIER proposed **ether** as a tænistuge. He gives a teaspoonful in a glass of strong decoction of male fern; followed by two ounces of castor oil.

WATSON preferred the **oil of turpentine**.

The action of **glycerine** in destroying the embryos of trichina has led to the recommendation of the same substance as a remedy for all varieties of intestinal parasites. We have not yet seen any reliable account of its use in taenia. FRIEDREICH administered glycerine in doses of a tablespoonful every hour for trichina, and found that dose well borne.

We have cured tape-worm by the use of oil of turpentine, of oleoresin of male fern, of pumpkin-seed, and of kousso. Pelletierine is too costly and the fresh pomegranate bark too difficult to obtain, for ordinary use.

A most serious question is, in what dose should these drugs be given to little children. Undoubtedly it requires as much to

kill a taenia in a babe's intestines as in an adult's. But although STARR speaks of two drachm doses of oleoresin of male fern for children, we would not give such a quantity to a four year old child. Half that amount produced alarming symptoms in one of our cases, the child fainting, and being restored with difficulty. In these cases we now give only the **pumpkin-seed**. Two to four ounces of the dry seeds may be stripped of the husks, and the kernels, with the greenish membrane lining the inner surface of the husk (in which the taeniafuge property resides), given to the child to eat. In one case when the fern failed to bring the head of the worm, the seeds were given as above, and smaller amounts given daily for a number of days. The result was satisfactory.

TETANUS.

BAUER opposes amputation in traumatic tetanus. Division of the affected nerve offers a less objectionable resource, and one which has been followed by good results. But if there be ascending neuritis the source of the disease is not reached.

Surgical treatment is of the greatest importance, and for this the reader is referred to works on surgery. We should hardly attempt to get along without the local use of **morphine**.

To check nervous irritability the hydrate of **chloral** is superior to all other means. **Tobacco** exercises a favorable influence upon the spasms by its powerful paralyzing action on the cerebrum and cord. Its depressing after-effect is a disadvantage. Hence, he prefers the **bromides**, or physostigma.

To diminish the irritability of the motor nerves we may give **prussic acid**, belladonna, and especially **curara**. But from the effect of these remedies upon the heart, he concludes that the spasms are best controlled by the chloral and bromide of potassium. The cold bath and cold douche are antiquated and heroic measures.

When the temperature is excessively elevated, the cooled bath will prove valuable. The warm bath is pleasant to the patient, but not of any other value. All irritation should be avoided.

The strength should be carefully supported. If the jaw be locked the food may be introduced through the stomach-tube or by the rectum. The bowels should be kept open, and any other symptoms arising should receive needed treatment.

CONNER thinks that if the mycotic origin of the disease is established, there will be good reason to administer the chlorides of **mercury**. The local application of ice to the spine has been credited with many cures, especially of non-traumatic cases. Free perspiration, induced by hot baths or by **jaborandi**, has sometimes seemed to be of service.

Conium was used successfully in two cases by JOHNSON, and appeared to give relief in others which proved finally fatal. Of 39 cases in YANDELL'S table, treated by **physostigma**, 39 per cent. recovered. Of 25 cases treated by **cannabis Indica**, 64 per cent. recovered. If **cannabis** be given, it should be in doses of one-half to four grains of the extract every two hours. In 185 cases treated by **opium**, 57 per cent. recovered. In all the preceding cases, it is almost wholly the milder and more chronic forms which recovered.

Chloral is the most valuable drug yet discovered. It is given in doses varying from seventy grains a day (MACNAMARA) to four drachms in the same period (VERNEUIL).

The **bromide of potassium** has been given in doses reaching to an ounce a day. KNECHT obtained nine cures out of ten cases, by the use of the bromide and chloral. KANE obtained sixteen cures out of twenty-one cases treated with the same remedies.

VOISIN reported a case in which chloral had been used with little effect for eleven days, when decided improvement ensued in three days when the bromide was given in two-drachm doses, and half a grain of morphine injected hypodermically three times a day.

The use of **alcohol** appeared of benefit in some cases, as eighty per cent. of recoveries followed its use in YANDELL'S cases; but in POLAND'S list the death rate was seventy-five per cent.

The conclusion of CONNER is that no remedy for tetanus has yet been found. Puerperal tetanus demands the same treatment

as the ordinary form of the disease; the uterus being emptied, and antiseptic irrigations employed.

In tetanus neonatorum, MARTON SIMS called attention to the fact that the occipital bone of the infant is often displaced inwards by the child being laid exclusively on the back. This is easily recognized, and simply necessitates a change in the position of the child, after the bone has been replaced by manipulation, or even by an operation. The success attending this method has been remarkable.

In Brazil this form of tetanus is so prevalent that it is estimated that one-third of the infants die of it. The European physicians in that country attribute the prevalence of tetanus to the manner in which the native physicians dress the umbilical cord. The funis is severed close to the *placenta*, and coiled up in a mass on the infant's abdomen; a liberal amount of ointment being added. The stench of this putrefying mass soon becomes very great.

REAGAN reported a case of traumatic tetanus in which by mistake two hundred and sixty grains of **quinine** were administered at one dose. The next morning the patient was found resting well, sweating profusely, and with no symptoms of tetanus remaining. Two other cases were subsequently treated successfully by giving one hundred grains of quinine every hour until the symptoms gave way. No bad results followed this heroic dosage.

MACNAMARA emphasizes the importance of nourishing the patient well. He gives four ounces of milk every four hours; an egg, or half an ounce of raw meat juice being added three times daily. If the pulse indicate great exhaustion, beef-tea and brandy may also be given in enema. If the teeth be firmly locked, the fingers may be inserted between the cheeks and the jaws, and the fluid poured into the cavity thus formed, when it will be drawn into the mouth and swallowed. He gives only **chloral**, thirty grains at noon and forty at bed time. This plan must be rigidly adhered to, however serious the case may be.

TETANY.

BASTIAN says that the treatment should in the main be directed towards the general health, and the diminution of all debilitating conditions or causes of irritation. At the same time the general mobility of the nervous system may be lessened, by seeing that the patient obtains regular and sound sleep, and by the administration of the **bromides** in suitable doses, with valerian, musk, or conium.

It will nearly always be found, that there are in these cases causes of reflex irritation, which must be removed before a cure is effected. Tape-worm, ascarides, retroversion or other displacement of the womb, stricture of the urethra and phymosis, may be mentioned among causes capable of giving rise to tetany.

TORTICOLLIS.

HAMILTON considers **hyoscyamine** the most serviceable remedy. **Electricity** has done good in either form, and vigorous faradisation with the electric brush is earnestly recommended in hysterical, rheumatic or functional cases. He prefers the combined and simultaneous use of the galvanic and faradic currents. The galvanic anode and the faradic cathode are applied to the back of the neck, the galvanic cathode is placed over the origin of the affected muscle, and the faradic anode over the other muscle, which is not in spasm.

In old cases exsection of the spinal accessory nerve has been practiced with success. Symptoms of organic cerebral disease, or the existence of unilaterally increased tendon reflex or tremor are contraindications. Braces and apparatus are worse than useless.

SENATOR says that when the disease is one-sided it may generally be cured by keeping the neck warm with flannel, or by hot poultices or the **wet pack**. The symptoms may be relieved and often removed by rubbing the rigid muscle with the hand, or with opiate embrocations. Careful and gradual extension of the muscle by passive traction of the head to the healthy side is sometimes of service.

If the cervical muscles be symmetrically and largely involved, the disorder may be cured by wet or dry cupping, sinapisms or stimulating liniments. A hypodermic injection of **morphine** may prove indispensable.

Wry neck in the most common form usually gets well in a few days under any method of treatment. Patients experience definite relief by applying an anodyne liniment, and then going over the neck with a hot iron, first covering the skin with flannel.

The use of electricity is not always pleasant. In one case in which we made use of a very weak faradic current, the patient fainted; and could never be induced to use the remedy afterwards.

The internal administration of **cimicifuga** is believed by some to be useful.

TRANCE.

GOWERS says that the treatment has to be directed to two ends: the maintenance of life, and the arrest of the trance. Advantage must be taken of any intervals of semi-consciousness, to give nourishment in a concentrated form. If swallowing be continuously impossible, food must be given by the nasal tube, or by enemata. Warmth should be applied to the extremities, and care taken to prevent bed-sores. In severe cases every attempt at arrest is often fruitless. Errhines, such as snuff, have usually no influence, and it is only in slight cases that this means, or stimulation of the skin by sinapisms is effective. The most powerful cutaneous excitant is strong faradisation. In a case under GOWERS' notice, which had lasted for thirty-six hours, strong **faradisation** to the arm quickly roused the patient. In another case which lasted for several months, this treatment had for a long time no influence; afterwards the patient could be partially roused for a short time by faradisation, and by repeating the application at the same hour every day a tendency to periodical waking was established, the remissions became longer and more complete, and the attack was ultimately brought to an end. Nervine stimulants, such as ether and valerian, may be given by the bowel, or sulphuric ether may be injected subcutaneously. Alcohol must be given with caution and in small quantities; enemata of strong coffee are often more

useful. A remedy which, from its effect on the vascular system, would certainly deserve trial in trance, is the inhalation of **nitrite of amyl**. Transfusion of blood has been proposed, and would be justified in cases following exhausting disease. The recurrence of attacks must be prevented by the improvement of health, physical and moral. (See Hysteria.)

TRICHINA.

HELLER has nothing to say of the treatment of this disease, deeming all the proposed remedies inefficient. He speaks of the importance of prophylaxis. The means by which we prevent the occurrence of trichinosis are, 1st. Prevention of the sale of trichinatus pork; 2nd. Thorough cooking of all pork preparations; 3d. Prevention of the acquisition of trichina by the hog.

Trichinatus hogs should be boiled under government supervision, and the refuse buried deeply or burnt. Hog butchers should be prohibited from keeping or feeding hogs; as the principal cause of the spread of trichina is the feeding of healthy animals with the offal of those already infected.

FIEDLER instituted a series of experiments with the various drugs which have been proposed for the cure of trichinosis, including oil of turpentine, castor oil, croton oil, calomel, jalap, colocynth, pyroligneous acid, kameela, male fern, benzine, picronitrate of potassa and of soda, and **glycerine**. Negative results were obtained from all, with the possible exception of the last named. His attention was directed to this by noticing that when glycerine was applied to trichinae in preparing microscopic specimens, the animals immediately die and become shriveled by the rapid absorption of water from their tissues by the glycerine. In one case of trichinosis the patient was given a brisk purgative, followed by pure glycerine in doses of a tablespoonful every hour. The man escaped infection, and no bad effects were noticed from the glycerine. FIEDLER concludes that if we succeed in conveying the glycerine unchanged past the stomach into the small intestine, we will have an efficient remedy against trichina. But as the thirst of the glycerine for water is apt to be sated by

extracting that fluid from the walls of the stomach, this will detract greatly from the value of the remedy.

Had UNNA succeeded in finding in **keratin** a substance of which capsules could be made, which would resist the solvent action of the acid gastric juice, and be dissolved by the alkaline intestinal fluids, the problem would have been solved. But keratin has proved a failure; and simple as this question appears, it still remains for future elucidation.

Meanwhile, FIEDLER recommends that glycerine be given by the mouth and by the rectum, as the most promising remedy yet proposed.

As **alcohol** possesses the same property of absorbing water from animal tissues, its use may be conjoined to that of glycerine.

Otherwise, the treatment should be that of fevers ordinarily.

If the patient be seen early, an emetic, followed by a cathartic, may rid the intestinal tract of the trichinatus pork, before the parasites have effected a lodgment in the tissues.

BARTHOLOW proposes the administration of **carbolic acid** and **iodine**.

Quinine seemed to exercise the most favorable influence of any drug used in SUTTON's cases. When the parasites have migrated, the treatment is purely symptomatic. Obstinate wakefulness and pain require **morphine** and chloral. Quinine and stimulants will be needed to support the powers of life. Milk, beef-juice, egg-nog and other aliments must be given from the beginning.

RHODE reported a case in which rapid improvement in the general symptoms followed when **ergot** had been accidentally given for another purpose.

FERRER also reports a cure effected by the use of **alcohol**, six to nine ounces being given daily. The case recovered in eighteen days.

TYPHLITIS.

OLIVER states as the first indication the relief of constipation; for which purpose he administers calomel, colocynth, senna or saline aperients, combined with opium and the use of warm

enemata. The latter are especially indicated when the vomiting is troublesome.

The second object is to subdue inflammation; by rest, poultices, blisters and opiates. The diet throughout should be fluid, consisting of beef-tea and milk. Strong aperients are to be condemned, as they increase the inflammation and the risk of perforation; and while aggravating the vomiting, may fail to move the bowels. If the local inflammation be severe, with great pain and tenderness, aperients by the mouth are to be avoided, enemata used, and **opium** given freely, while leeches are applied over the tumor.

LEUBE recommends an active antiphlogistic regimen, including the continuous application of **ice-bags** or of cold compresses, leeching in robust persons, and injecting ice-water into the rectum. The latter also serves to keep the bowels open, which is the first indication so long as there is no symptom of peritonitis. If the ice-water injections prove insufficient for this purpose, salt or honey may be added to them, and a dose of **castor oil** or even a stronger laxative may be given, if peritoneal irritation can be certainly excluded from the diagnosis.

If these measures do not succeed, or if peritonitis be indicated, **opium** should be used; or as a last resort, enterotomy performed above the obstruction. The induration remaining after the typhlitis has subsided is to be treated by poultices and warm or salt baths; while perityphlitic abscesses are to be opened as soon as fluctuation is detected.

TANNER recommends anodyne fomentations to be applied, while opium is given internally in sufficient doses to relieve pain. Prolonged hot hip-baths often give great relief. Effervescing drinks, lemonade and ice, will be useful in relieving the nausea; while if it be necessary to relieve the bowels, castor oil enemata may be employed. Great care must be taken to keep the patient quiet in bed, as well as to enforce the exclusive use of liquid nourishment, until all symptoms of disease have passed away. If suppuration occur, milk, cream, raw eggs, essence of beef, and cinchona with brandy or port wine, will be needed.

In chronic cases he has seen most good result from simple nourishing food, warm bathing, sedative applications, cod liver oil and other tonics.

DAVIS begins the treatment with the use of large enemata, with anodynes by the stomach and local applications of cloths wet with warm narcotic infusions.

He has found gratifying relief follow the use of an enema containing **chloral**, gr. xxv, and tincture of **belladonna**, ℥ xxv, in four ounces of lukewarm water. Within half an hour it will be followed by decided relief, and the patient will be enabled to sleep. This relief will continue for two to three hours, when, if the distress recur, the enema may be repeated.

The choice of a laxative in typhlitis is by no means a matter of indifference. There is on the whole nothing to equal **sulphate of magnesia**; because when given in small doses it renders the contents of the bowels fluid, without notably increasing the peristaltic movements. Half a drachm should be given every four hours, in half a glass of cold water. Large injections of hot water should be given at the same intervals. These assist materially in removing the fecal accumulations, especially if the operator be skilful enough to inflate the colon with the liquid injected. Besides this, they assist in relieving the inflammatory symptoms, in much the same manner as poultices, but with much more effect. Externally, hot fomentations are preferable to poultices, because the latter are in most cases too heavy to be born.

The use of opium must be regulated by the degree of pain; enough being given to afford relief, after the primary impaction has been removed. If the patient can get along without anodynes during the day, a full dose may be given at bed-time.

The diet need not be limited to fluids unless fever be present, but should never contain substances which increase the fecal mass. The white of egg beaten up in milk or water, Salisbury steak, and soft boiled eggs, may be given if the case be prolonged, and the strength of the patient impaired. In other cases rice-water, barley-water, and skimmed milk are sufficient.

(See *Peri-Typhlitis*.)

TYPHOID FEVER.

LIEBERMEISTER says that among all the remedies for this disease there are but two whose specific influence he would not positively deny, and these are **iodine** and calomel. He gives the following:

R Iodi,.....3 j
 Potassii iodid.,.....3 ij
 Aquæ,.....f 3 x

M. S.—Four drops in a glass of water every two hours.

In two hundred cases the iodine produced no marked effect on the course of the fever, nor on the diarrhea and the intestinal symptoms, nor on the temperature. In fact, the only difference noticed between these cases and those treated without iodine was that in the former the mortality was less.

Nearly all observers who have treated great numbers of cases with large doses of **calomel** claim favorable results. LIEBERMEISTER gives from seven and a half to ten grains, three or four times a day. The cases thus treated appeared to run a milder course than usual in many cases, but not in all. The drug was usually given for but one day.

The danger in typhoid fever consists in the effects of continued high temperature upon the tissues. Antipyretics are therefore of the first importance. For adults the full-length **cold bath**, at 68° or lower, is to be preferred. The duration should be ten minutes, or less for feeble persons who do not react well. After the bath the patient is wrapped in a dry sheet and put to bed, lightly covered, and given a glass of wine.

With very feeble patients, baths at 75° should be used at first. For these cases ZIEMSEN's method is to be recommended, of baths at 95° cooled down gradually by adding cold water, until the temperature is reduced to 72° or below. The duration of these baths should be longer. Whenever the axillary temperature reaches 102°.2 a cold bath is given. In children the bath is not used until the temperature reaches 103°.

Too much must not be expected from one or from a few baths. In very severe cases they must be repeated every two hours. The rapidity of the reproduction of heat constitutes a valuable prognostic sign. The baths must be continued during

the night as well as the day. With fat persons the baths must be long and colder.

In later stages the patients often request the baths, but if the rectal temperature be under 101.5° , cold sponging should be substituted. Cold affusions have much less effect. Cold packs are well borne if the legs below the knee be left free. They may take the place of the baths in children. Cold sponging has but slight cooling power. Cold compresses and ice bags have no effect on the general heat, but may be of use by long-continued application over the heart, or head, in protecting those organs.

While cold drinks, ice, and cold enemata, have but little effect, the little reduction of heat obtained by their use is not followed by a subsequent increased production of heat.

Hæmorrhage from the bowels contra-indicates the use of cold baths. So, also, does perforation. Menstruation, pneumonia, and hypostasis do not contra-indicate them.

Weakness of the heart contra-indicates the cold bath; though, if the weakness be slight, ZIEMSEN'S bath may still be employed.

Besides the baths, LIEBERMEISTER hardly ever treats a severe case without antipyretic doses of **quinine**. From twenty-two to forty-five grains must be taken within half an hour, or at least within an hour.* This is never repeated within twenty-four hours, and usually not within two days. The decline of temperature begins in a few hours, and in from six to twelve hours it may go to the normal standard; then it begins to rise, but even on the second day has not reached the previous height.—If the first dose reduce the temperature to 98.5° or lower, the next dose is diminished.

When the fever strongly remits spontaneously, quinine is much less indicated. It may be used when the baths are contra-indicated by hæmorrhage.

The same may be said of its use in cardiac weakness. If the quinine cannot be given by the mouth, the best substitute is to inject it into the rectum, in solution, with a little laudanum.

In the uncommon cases in which the fever refuses to bow before the bath and quinine, **digitalis** constitutes a further weapon.

* This should be given at about seven or eight o'clock in the evening, so that the antipyretic effect and the natural morning remission will occur at the same time.

The dose is eleven to twenty-two grains, in powder, given during thirty-six hours. This should be followed by a full dose of quinine. If this produce a complete intermission, the same end may afterwards be obtained by the use of quinine alone. Digitalis can only be used when there is not much weakness of the heart, and where the pulse is not yet extremely frequent.

Veratria will temporarily break the fever when quinine fails. One-twelfth of a grain may be taken in pill every two hours until nausea ensues. Four to six doses suffice. The ensuing collapse is not dangerous, and can soon be overcome by the use of wine.

No further treatment apart from the dietetic regulations will be required in cases which pursue a regular course. Failure of the heart calls for the treatment of its cause, which is high fever. To stimulate the heart, the first agent is **alcohol**. All patients who have been in the habit of using alcohol should be permitted to continue its moderate use. Wine is also to be given after, and sometimes also before, a bath. Cardiac weakness calls for more stimulant, in stronger forms.

In sudden collapse, strong, hot punch and strong tea and coffee may be of great value. The stimulants should not be pushed beyond what is necessary, or so that a further failure finds us devoid of further resources. The only other restoratives used by him are **camphor** and **musk**; the latter for sudden emergencies, and the camphor where a more prolonged action is required.

Cerebral paralysis can be most surely prevented by the antipyretic treatment. In the rare cases in which it occurs, the usual cold-water treatment, with ice-bags to the spine, usually suffices. Extreme irritability and insomnia indicate the need of **morphine**.

Moderate diarrhea requires no treatment. If more than four full passages occur, **opium** may be given in small and repeated doses, with ipecac, nux vomica, tannic acid, or alum. Sometimes prolonged constipation calls for calomel or castor oil. Tympanites, which rarely becomes great under the antipyretic regimen, may require cold compresses to the abdomen, changed every half hour. Cold rectal injections may also be used, perhaps with turpentine, or an intestinal tube or œsophageal sound may be required.

Dryness of the tongue may be relieved by holding ice in the

mouth, by drinking frequently, or by rinsing the mouth with red wine, soda-water or chloride of lime solution. The bladder should be frequently examined, and emptied if necessary.

In intestinal hemorrhage the bowels should be restrained by small doses of **opium**; two grains being given during twenty-four hours. Perfect quiet must be enjoined, and the abdomen kept covered with an ice-bag. Tannic acid or alum may be given with the opium.

Perforation or peritonitis calls for the persistent use of opium, one-third to one-half a grain, at first every half hour. Nourishment must be kept down to the smallest bulk, and that of liquids alone. Never allow yourself to be persuaded into ordering a cathartic or an erema.

To avoid hypostasis, keep up the heart's action, change the patient's position frequently and compel him to take full, deep inspirations from time to time. Scrupulous cleanliness prevents bed-sores. Water-cushions aid in their prevention or cure. The skin should be frequently bathed in alcohol; when erosions appear diluted alcohol and lead-water should be substituted, pressure should be removed, and the position changed. Deep sores require ointments of lead or tannic acid, or carbolic acid lotions. Dry gangrene should not be disturbed. Moist gangrene demands that the patient be placed in such a position as to leave the parts free, and aromatic poultices applied.

If new sores develop whenever the position is changed, the permanent bath sometimes does good service; the patient remaining in the bath from sixteen to twenty hours, or even continuously for several days. Oak bark may be added to the water.

Experience proves conclusively that patients do better who go to bed early in the disease, even if the attack be light. They should not be allowed to sit up, until the evening temperature has been normal from three to six days.

The bowels and bladder must be evacuated while the patient is lying down.

All mental and physical annoyances should be kept carefully away. But one person should be allowed in the sick-room, and conversation should not be permitted. The temperature of the

room should be kept between 56° and 64° Fahrenheit. Proper ventilation should be maintained.

Water is the nutritive most needed. This may be flavored to suit the patient's taste. Decoction of parched rice is a useful drink, if there be much diarrhea. Proteins and fats are not absorbed, and will cause catarrh. Thus, the Hippocratic diet, barley-water, thin gruel and weak meat-broths, constitutes the most desirable diet. STROMEYER prefers oaten grits, cooked three hours, without sugar. Milk must only be given when boiled and diluted with water, seltzer, tea or coffee. Later, the yolk of an egg may be beaten up in the broth. Those who are very low may be given beef-tea, with claret, or LEUBE's meat and pancreas injections. Solid food should be reserved for advanced convalescence.

J. C. WILSON states that the one efficient prophylactic measure that includes all others is the prompt and thorough disinfection of the dejections. For this purpose he recommends solutions of **carbolic acid**, one part to twenty of water; or of sulphate of iron or chloride of zinc. Soiled clothing or bedding must be immediately removed, disinfected and boiled thoroughly.

Success in the treatment is largely dependent on the general management and nursing. The original source of the infection should be sought and removed. The diet should consist of milk, buttermilk, meat-broths, with barley, claret, port, meat-juice, oyster or clam soup, and coffee or tea twice a day. A moderate quantity of thickened gruel, arrowroot or bread and milk, may be given once a day, but generally starches are objectionable.

The food should be given every two hours during the day, and every three hours at night. If the quantity taken be but small, and the weakness extreme, the intervals may be shortened.

Alcohol is injurious during the primary fever, unless it be given to meet special needs.

In the secondary fever, stimulants are indicated by cardiac weakness and by the occurrence of serious nervous phenomena. The process of gangrene going on in the intestines also calls for the use of alcohol, as external gangrene also does. But many cases require no stimulants; many others only during the last days of convalescence.

PEPPER advocates the use of **nitrate of silver**, in the dose of gr. $\frac{1}{8}$ to gr. $\frac{1}{4}$, three or four times daily, after eating. Belladonna or opium is to be added, according to the state of the bowels.

FLINT suggested that the **mineral acids** should always enter into the treatment. They are given, well diluted, as agreeable drinks.

BARTHOLOW uses the combination of tincture of iodine, one part, to carbolic acid, two parts, and gives from one to three drops, thrice daily.

WILSON considers that in the greater number of cases occurring in America, the antipyretic system is unnecessary, on account of the mildness of the fever. In other cases it is inadmissible, and in fact can but rarely be instituted outside of hospitals. He gives **quinine** in accordance with LIEBERMEISTER'S directions, in all cases where the temperature goes above 104° F. He prefers the expectant treatment. Absolute rest in bed, careful nursing, a restricted diet, cleanliness of the person and bedding, and ventilation, form the basis of this treatment. JENNER says that if medicine be required, it is because of special unfavorable symptoms. The physician will be most successful who watches the progress of the fever, with skilled, intelligent and constant care, and gives unceasing attention to little things; and who, when prescribing an active remedy, carefully weighs the intended good against the possible evil; and if the evil be death, and the good short of saving life, holds his hand.

Early headache simply requires absolute quiet, darkening the room, and heat or cold to the head.

Persistent sleeplessness requires **chloral** and **bromide of potassium**, alone or combined. **Opium** is rarely required until the secondary fever, when it should replace the chloral.

Somnolence, stupor and delirium are to be treated by stimulants and antipyretics. **Alcohol** stands first and almost alone among stimulants. Cold douches or ice caps may be applied to the head. Light brain symptoms are often relieved by **coffee**. Desperate cases may require shaving the head and the application of a blister. Tremor calls for full doses of alcohol and opium.

Diarrhea is best treated by **bismuth**, in scruple doses, four to six times daily, with opium if necessary.

If the stools be fetid or ammoniacal, JENNER gives an occasional teaspoonful of animal charcoal, in impalpable powder. Creosote and carbolic acid are also of service.

Tympanites require alcohol, **turpentine**, camphor and minute doses of opium, charcoal to prevent decomposition, and pepsin with the mineral acids to insure perfect digestion.

For hemorrhage he speaks favorably of gallic acid, turpentine and ergot. MURCHISON places his trust in the following:

R	Acid. tannici,.....	gr. x
	Tinct. opii,.....	℥ x
	Ol. terebinthinæ,.....	℥ xv
	Mucilaginis,	f 3 ij
	Tinct. chloroformi,.....	℥ xx
	Aq. menthæ, pip., ad.....	f 3 j

M. S.—At one dose.

Ergotine may be injected hypodermically, in doses of ten grains every half-hour or every hour, until the evidences of hemorrhage cease.

An ice bag may be applied to the abdomen.

During convalescence the temperature is apt to rise on very slight provocation. The diet must be carefully watched, and visits of friends must be few and short. Undue exertion must be avoided. At the end of a week solid food and meat may be resumed.

Tonics, sea-air and change, are useful in this stage.

DAVIS speaks of the benefit derived in the early stages from the use of chlorate of potassa, chloride of sodium, bichloride of mercury, and to a less extent, from iodine. He objects to the use of calomel; having witnessed a number of cases where salivation had resulted from its administration.

He recommends frequent sponging, with water at the temperature most agreeable to the patient. To further promote the action of the skin and kidneys he gives nitrous ether, liquor ammoniæ acetatis and digitalis, separately or combined.

When the first stage has passed, and the symptoms point to

failure of the nervous functions, he administers **strychnine** and **nitric acid**. If the bowels be too loose, opium is added.

Most authors advise the use of stimulants in hypostasis. But no fact in therapeutics has been better established than that alcohol diminishes the interchange of carbonic acid and oxygen in the lungs, and lessens the nervous sensibility generally. As the blood in these cases is already darker and less coagulable than natural, and the capacity of the lungs is diminished by the hypostasis, while the sensibility generally is blunted, it is difficult to see rational grounds for the use of alcohol.

After fairly studying the question for thirty-five years, he has been unable to find an increase of the heart's force follow the use of alcohol in a single case; as shown by cardiac auscultation, by the sense of touch, or by the sphygmograph.

The use of some anodyne, with small doses of mercurials or of iodine in the first stage, then with a mineral acid, nitrate of silver or oil of turpentine, and in the later stages the last named remedy and strychnine, fulfils the rational indications better than any other means.

In the matter of diet, he recommends that milk should be boiled, and while boiling a little wheat flour added, with brisk stirring to prevent the formation of lumps, and given in the form of thin gruel. Of this, one to two ounces may be given every one or two hours. When there is much muttering delirium with subsultus or unusual drowsiness, he gives tea and coffee.

With this treatment in operation he finds no occasion to employ the antipyretic system.

The formulæ used by this eminent clinician are as follows:

R. Ol. terebinthinæ,.....f 3 iij
 Ol. gaultheriæ,.....f 3 ss
 Tinct. opii,.....f 3 iv
 Pulv. acaciæ,.....
 Sacch. albi,.....ââ 3 vj

M. et adde,

Aquæ,.....f 3 iv

S. A teaspoonful every three to six hours.

This is given when there is increased fulness of the abdomen, dryness of the tongue, and increased diarrhœa.

If the turpentine cause urinary irritation, he substitutes:

R Argenti nitrat.,.....gr. x
 Ext. hyoscyami,.....gr. xxx
 Pulv. opii,.....gr. xxx

M. et in pil. no. xxx div.

S. One every three to six hours.

R Strychninæ,.....gr. j
 Acid. nitrici,.....f 3 j
 Tinct. opii,.....f 3 iv
 Aquæ,.....f 3 ijss

M. S. A teaspoonful every three to six hours.

LOOMIS declares that there is not the slightest proof that the poison of typhoid has ever been removed from the system and the disease thus aborted, by any agents. Like most American physicians, he attaches great importance to the proper regulation of the sick-room. A properly qualified nurse should be selected, the room should be large and well-ventilated, and useless articles and carpets should be removed. The bed should be placed in the center of the room. Free ventilation, day and night, is of the utmost importance. The temperature of the room should be kept below 60° Fahr. The bed and body-linen should be changed daily, and at once removed from the room and placed in a weak solution of chlorinated soda; especially if the discharges be passed in the bed. The apartment should be perfectly quiet, the light subdued, and the necessary attendants alone allowed in the room.

In mild cases the treatment resolves itself into the above arrangements and proper dieting. Milk is the most suitable food, and fruits are not to be allowed in any case. Even in the mildest cases this care in diet is necessary, and the patient should be kept in bed until convalescence is established.

He believes that the specific poison of the disease has more to do with parenchymatous degenerations than the high temperature has. Still, the judicious employment of antipyretics has much to do with the safety of the patient. Of these he utilizes the **cold bath** and **quinine**. He finds that if five baths do not suffice to maintain a continuous low temperature, very little is gained by their continuance. Nor does he employ the baths after the second week, on account of the danger of collapse, or of pulmonary complications.

In some cases the temperature can be rapidly lowered by the

application of ice-bags to the abdomen. They also exert a favorable influence on the intestinal lesions.

Enemata of ice water also will sometimes lower the temperature rapidly.

The antipyretic power of **quinine** is well established. It must be given in doses of thirty to forty grains within two hours. His rule is, after reducing the temperature to 101° or 102° by a cold bath, to give a full dose of quinine to delay the subsequent rise of temperature.

His rules concerning the use of stimulants are as follows:

They should not be indiscriminately given in all cases of typhoid fever.

When there is reasonable doubt about their use, they should be withheld until the indication is clearer.

The effect of the first few doses should be carefully marked.

If the tongue become dry, the patient restless and the pulse faster, the use of stimulants is not indicated.

But if the pulse become fuller and more regular, if the first heart sound be heard more distinctly, if the restlessness and delirium be less marked, the tongue moister and the patient more intelligent, the indication for the use of stimulants is clear.

Once begun, they must be given regularly; especially at night.

The only suitable diet is milk. It may be given curdled, boiled, frozen, fermented slightly, or mixed with lime water, seltzer, pepsin or pancreatin. Buttermilk may be substituted for a time. The quantity need not be limited, patients usually taking from four to six quarts daily. After the fourth week, cream and the yolk of eggs may be given with the milk.

Early diarrhea he lets alone; but for that which occurs during the third week or later, he gives opium in very small and frequent doses. In convalescence, astringents may be employed.

For distressing tympanites he uses turpentine stupes.

Hemorrhage occurring early requires no treatment. After the second week, it should be promptly checked. The surest remedy is **opium** in small and frequent doses. Absolute rest in bed must be insisted upon, and an **ice-bag** must be applied over

the abdomen. In prolonged cases, keep the patient under the influence of opium, and give turpentine internally.

Perforation is to be treated as localized peritonitis.

Bronchitis demands no treatment unless it become capillary, when dry cups and the use of carbonate of ammonia will give great relief. Vapor inhalations will also be of service in severe cases.

The occurrence of pneumonia is always an indication for stimulants, and change of posture.

Laryngitis may be relieved by a blister below the angle of the jaw, and by enveloping the neck in a poultice. Tracheotomy may be necessary to prevent suffocation. For bed sores, he recommends washing with a weak solution of carbolic acid, or brushing with balsams of Peru and copaiba, and dressing with lint covered with vaseline.

Headache is usually to be relieved by warm applications. If anodynes be necessary, **opium** is the best. When anodynes fail to give relief, stimulants often succeed; especially when the condition is that of cerebral anemia.

All gastro-intestinal symptoms occurring in convalescence should be regarded as dangerous. While the intestinal ulcers are still unhealed, the diet must be strictly limited, and the patient's cravings disregarded. Solid food must be strictly forbidden. Such patients should keep the recumbent or semi-recumbent position until the ulcers have cicatrized; which may be some weeks after the convalescence is well established.

In the Boston City Hospital, excessive diarrhea is quickly checked by a pill containing one grain of opium and one-fourth of a grain of **sulphate of copper**. The frequent use of a mouth-wash of equal parts of glycerine and rose-water is very pleasant to the patient.

PEPPER reported thirty-nine cures out of forty cases in which the **nitrate of silver** was given in the second week of the disease. Quinine, cold baths and other remedial measures were employed at the same time, in such cases as required them.

DUJARDIN-BEAUMETZ, in a recent paper published in the *Bulletin General de Therapeutique* (Jan. 15, 1887), calls attention to the fact that the state of the intestinal lymphatics in typhoid fever

is such that neither fats nor peptones can possibly be absorbed. The lymphatic network is blocked up and the mesenteric glands inflamed, in such a manner that the chyliferous function is profoundly perturbed. In the meantime, nothing but liquids can be absorbed by the venous rootlets of the portal system. Consequently, the only nutritious elements which can penetrate the system by the digestive canal are water and the salts;* while the albuminous and fatty principles consumed in the vital processes are furnished solely by the tissues of the patient.

Only precise experiments by weighing patients nourished on bouillon exclusively, and those submitted to the milk diet, will allow us to judge accurately the value of the latter. For himself, he believes that milk acts only through the water and the saline substances it contains.

He speaks highly of the effect of lemonade.

The great indications for the employment of **alcohol** are the adynamic forms of fever, the habitual use of alcohol previously, and the extremes of life.

This rigorous régime should terminate the moment convalescence begins.

This is the latest teaching of this distinguished clinician, as in his earlier writings he recommended the milk diet, milk punch and meat powder. For a mouth-wash he prefers Vichy water. Disinfection of the fecal discharges is promoted by enemata of charcoal, two or three spoonfuls to the pint of water.

Speaking of typhoid delirium, he urges that in young women the hair shall be cut short. This is but little of a sacrifice, as the hair falls out during convalescence.

Speaking of the use of baths, he enters his decided protest against the misuse of statistics. So many elements may modify the severity of this fever, that the same system gives very different results in different places, seasons, ages, and in the same place in different years. There is no doubt that pulmonary congestions arise from the use of the cold bath, and that in some cases intestinal hemorrhages result.

* If, as physiology teaches, only the fats are absorbed by the lacteals, and the products of digestion of sugars, starches and nitrogenous foods are absorbed by the rootlets of the portal system, the Doctor's calculations cannot be accurate. C. F. T.

The use of tepid baths, at 93° to 98° , is much less objectionable: allaying nervous excitement, lessening the sensation of burning heat, and maintaining perfect cleanliness. This may be repeated once or twice a day, the patient being well-sustained by wine and meat-broths given during the bath.

He advises us to give quinine only in doses of thirty grains or less, and not continuously; but prefers to this drug **salicylic acid**. This should be administered in capsules, in doses not exceeding one drachm. In severe diarrhea he recommends the salicylate of bismuth, in doses of forty to sixty grains a day.

HUCHARD reported very favorably upon the use of **anti-pyrine** in high temperatures in typhoid fever. He gave from one to three doses, of fifteen grains each, at least an hour apart.

FERGUSON, in the *Indiana Medical Journal*, gave a less favorable account of this remedy, finding that it increased the dryness of the tongue and the other symptoms which are looked upon as bad prognostics.

We agree most heartily with DUJARDIN-BEAUMETZ in his objection to treating all cases of typhoid fever upon one plan. We could not look upon any man as a skilful physician who would put *all* his patients upon a Procrustean method. In fact, we cannot now recall any two cases within the last five years in which we have used precisely the same course.

The majority of cases require but little medicine. The beneficial effects of rest, quiet and a subdued light, with a perfectly arranged system of nursing, are more highly valued by every physician as years bring him experience. The value of **free ventilation** can hardly be over-estimated. In our opinion, one of the most valuable lessons ever given to the profession on this disease is the celebrated case detailed by FLINT, where an emigrant vessel landed a large number of typhoid cases at the New York quarantine station. Accommodations being wanting, a rough wooden shed was put up, with a canvas roof, and one side remaining unenclosed. In this the sick were placed. So slight was the shelter afforded, that the following night the inmates were drenched to the skin by a fall of rain. *All recovered*, while of

four officers taken into a farm-house for treatment, two died. Acting upon this hint, we have always encouraged the nurses to provide the freest possible diffusion of air through the sick-room.

In spite of the great respect due to the opinions of DUJARDIN-BEAUMETZ we cannot lay aside our belief in the sustaining qualities of **milk**; which we have long used as an almost exclusive diet in typhoid fever. There are several points which are not positively determined by his investigations.

1. Is it always the case that *all* of the intestinal lymphatic system is disabled from performing its functions in typhoid fever, at the same time? Or is not the disease somewhat progressive, so that some of the lymphatics are able to absorb nutritious materials for a time, while others are disabled?

2. Even if this be not the case, is it not possible that absorption may take place through another channel? Nature shows herself fertile of resources. She provides for accidents, and makes allowances for carelessness. She opens up collateral circulation when a main artery is occluded. She eliminates bile by the kidneys. She provides the pancreas for the traditional American who is in too great a hurry to masticate his bread. It does not seem likely that she should have no resource left in the present case.

We trust that the great importance of this subject will excuse the digression.

Alcohol must not be given too soon. Many cases do not require it at all; few demand it before the third week, unless in the case of those who have been previously accustomed to its daily use.

Acting upon a suggestion of KLEBS, we are in the habit of prescribing twenty grains of **benzoate of ammonium** every four hours, as a routine treatment. While we think the cases thus treated have been, on the whole, milder than usual, we are not prepared to affirm more than a possible good effect from this remedy. We have had no deaths in nearly one hundred cases, but the number is too few for deductions of much value. Nitrate of silver has proved too irritating to the stomach for ordinary use; and as it cannot possibly reach the diseased portion of the intestinal canal without being converted into the chloride, its effect cannot be very beneficial.

While antipyretic doses of **quinine** certainly reduce the temperature, their use is followed by an increase of the stupor, diarrhea, dryness of the tongue, tympanites and delirium; while intestinal hemorrhage has on several occasions appeared for the first time the day following the exhibition of this drug. We have been enabled to do without it.

Sponging with luke-warm water, or with vinegar and water, is very agreeable to the patient and allays the fever. In some cases we have applied cold compresses to the abdomen, in the manner described under the heading of Acute Tuberculosis, and have found the application useful and agreeable. For diarrhea we have obtained the best results from the free use of subnitrate of **bismuth**, gr. x, every hour. For tympanites and threatened perforation, we have never had reason to regret our reliance on Wood's remedy, the **oil of turpentine**, gtt. x, every two to four hours. The remarkable effects sometimes exhibited when this remedy is applied to external gangrene should lead us to infer that its effects in typhoid fever are not "merely a slight stimulation."

Intestinal hemorrhage is not common when the diet is strictly enforced, but when it does occur we treat it with acetate of lead, gr. ij, and opium, gr. $\frac{1}{4}$, every two hours. Ice compresses to the abdomen are also efficacious.

In failure of the heart, alcohol is the remedy, with strychnine, gr. $\frac{1}{40}$, hypodermically repeated every four hours if necessary.

Delirium is not always due to debility. In one case the attack began with furious delirium, total absence of sleep, and a hard, full pulse. Rather than make use of a strait-jacket, as the French suggest, we gave the patient **tartar-emetic**, in doses sufficient to calm him. A pretty free intestinal hemorrhage followed, and the case pursued a more serious course than usual, but recovered in four weeks. This was one of the worst cases we have ever witnessed, and the only one to which we have ever given antimony. In the present day it sounds singular to hear of antimony being used in typhoid fever, but the physician who disassociates his mind from fashions, and treats each case as it presents itself, and not simply as one of a series, will sometimes meet with a case which requires the obsolete methods of our fathers. We believe he

will likewise obtain more than average results. Even were nine out of ten cases saved by the method of LIEBERMEISTER, we should hope that a different treatment applied to the tenth case would save that one also.

In other cases, a moderate dose of **morphine**, one-eighth to one-sixth of a grain, has not only dissipated the delirium, but has banished the wearying coma-vigil, the waking dreams and muscular aching, which are often very annoying during the first two weeks. It is often only by close attention that we can ascertain that our patient is not getting sleep.

If milk be unpleasant to the patient, we may substitute rice-water, the white of an egg beaten up in water, perfectly fresh buttermilk, koumiss, or better than all, **coffee**. This may be made in the ordinary manner, or by using skimmed milk instead of water in its preparation. If the French physicians be right in regard to the impossibility of introducing aliment, there is still greater reason for the free use of the substances that enable persons to do without food, i. e. coffee, tea and coca.

TYPHUS FEVER.

BEVERIDGE calls attention to the importance of preventing the spread of the disease, by isolation and other sanitary precautions.

All efforts to cut the disease short have failed. The principle of treatment is to keep up the strength by every means, until the disease has run its course. Constant and careful nursing is requisite. The patient should be kept in bed absolutely, and not allowed to rise even in the early days of the attack. He should be fed at short intervals with liquid food, especially milk and strong soups, and these should be given to as great an extent as the patient can be induced to take them.

The thirst should be relieved by drinks of any kind. They, as well as nourishment, should be pressed upon the patient, as he will not ask for anything in serious cases. Constipation may require an occasional dose of castor oil. The patient should be made to empty his bladder at proper intervals. Sometimes it is necessary to use the catheter. Absolute quiet should be secured, and efforts to converse with the patient should be forbidden. For

sleeplessness and delirium the best remedies are quiet, darkening the room, and applying cold wet cloths to the head steadily. Opium and sedatives are ill-borne. The judicious use of **stimulants** in moderate quantity is often very advantageous. They should be kept in reserve to push through an emergency. The best guides to their administration are the rapidity and the strength of the pulse, the degree of muscular prostration, and the quantity of nourishment taken. Recourse should not be had to alcohol until it is absolutely necessary, and not during the first week if it can be avoided. As soon as the appetite begins to return, reliance should be placed upon feeding, and stimulants should be laid aside. The quantity need not be large; four to eight ounces of wine in the twenty-four hours, and a little more, with a little brandy added in bad cases, will procure all the advantage obtainable; while larger doses increase the head-symptoms. The best indication of their good effect is the falling of the pulse.

The position should be changed often, to avoid the occurrence of pneumonia or of bed-sores.

If pneumonia occur, *ipecacuanha* or similar remedies in small doses should be given, with stimulants. Cold sponging is extremely agreeable and soothing to the patient.

LEBERT advises nearly the same system of nursing and feeding. Cold sponging is useful and pleasant. Cold baths at 65° F. may be repeated day and night, as often as the temperature rises above 102.2°.

He admits that drugs are unnecessary and gives only a little dilute phosphoric acid to satisfy the friends. Where there is extreme restlessness, a warm bath often proves efficacious, alone or followed by a cold douche.

Large doses of quinine are only to be used when the fever is intense, and when cold baths cannot be used at all. Fifteen to thirty grains of quinine are suitable doses.* Where the thoracic symptoms are marked, *ipecacuanha* may be given with ammonia, alcohol and oil of anise. Small doses of **morphine** may be prescribed for the exhausting wakefulness during convalescence.

* Whenever quinine is given as an antipyretic in whatever disease, it should be given in the evening, so that the decline of temperature caused by the quinine will coincide with the natural decline during the early morning hours, and the full effect of both will be felt in the morning.

(C. F. T.)

VERTIGO.

1. OCULAR VERTIGO.

The treatment is that of the ocular disease which causes the vertigo.

2. AURAL VERTIGO, or Menière's Disease.

MACKENZIE directs the patient to maintain the recumbent posture during the attack and for some time afterwards. **Bromide of potassium** may be given in ten to twenty-grain doses, and small pieces of ice may be swallowed. Any gastric derangement should be corrected, to prevent that source of the excitation of paroxysms. Any abnormal local condition must be treated. Subsequent to the attack, the use of **quinine** in full doses, three to ten grains three times a day, used perseveringly, is sometimes attended with the best results. GOWERS found **gelsemium** and the **salicylate of soda** useful. Counter-irritants, including the actual cautery, applied to the mastoid process, have proved serviceable in some cases.

S. WEIR MITCHELL recommends points of **cautery** behind and in front of the ear alternately. All auditory disease is to receive appropriate treatment. While acute, **morphine** is very serviceable, with full doses of the bromides. When these remedies cease to be of value, CHARCOT'S plan of the heroic use of **quinine** does good, but **hydrobromic acid** in full doses should be given at the same time. It is well to warn the relatives that while remote relief is probable, it will be bought at the cost of increasing deafness, and that we can rarely do more than help the patient to endure his state until time comes to our aid.

3. GASTRIC VERTIGO, or vertigo à stomacho læso.

MANN recommends a cold bath on arising, followed by free friction with a Turkish towel or a flesh-brush. No malt liquor should be taken. The diet must be plain and regular. **Vichy** water, with perhaps a little brandy, may be used as a drink. The patient must retire early and sleep in a well-aired room. The following may be taken before meals:

R	Pulv. rhei,.....	3 j
	Sodii bicarb.,.....	3 ij
	Pulv. gentianæ,.....	3 ij
	Aq. menthæ pip.,.....	
	Aq. dest.,.....	ââ f 3 ij

M. S.—A tablespoonful thrice daily.

Instead of this, five drops of tincture of **nux vomica** may be given before meals. Many cases are due to alcohol or to mental anxiety, and will not improve until these causes are removed.

In others, oxaluria will be found to be present, and will require fifteen-drop doses of **nitro-muriatic acid** in water, thrice daily, before meals. In others, the presence of an excess of uric acid or of urates will necessitate a strict diet, rest, free exercise, and purgative alkaline waters, such as the **Saratoga Vichy** and the **Poland**, or small doses of the **citrate of lithia**.

FLINT considered **quinine** the most useful drug, when given in full doses.

DA COSTA says that it is often necessary for the patient to change his habits, and perhaps to take a sea-voyage. After the diet is regulated, he gives the **bitters** before meals and **alkalies** after eating. Later on, he gives **iron** with **strychnine**, gr. 1-30, thrice daily. Another plan consists in the administration of **corrosive sublimate**.

4. NERVOUS VERTIGO.

MACKENZIE states that this is to be treated by removal of the cause (overwork, sexual indulgence, the abuse of alcohol, tobacco or tea), by correction of dyspeptic troubles, and by the administration of iron, quinine or strychnine. The bromides are to be avoided.

In the vertigo of old age, JONES recommends the following:

R	Hydrargyri chlor. corros.,.....	gr. j
	Glycerini,.....	f 3 j
	Tinct. cinchonæ comp.,.....	f 3 ij
	Ol. menthæ pip.,.....	ʒ xxv

M. S.—A teaspoonful in water three times a day.

S. WEIR MITCHELL speaks favorably of the use of the bromides

or **hydrobromic acid** in acute attacks, however caused. If the trouble be grave, he gives hypodermics of **morphine**; and if there be marked pallor of the face, inhalations of **amyl-nitrite**, or the internal use of **nitro-glycerine** or of alcohol. Lying down and taking an ounce of **brandy** will often avert an attack.

Vertigo from abdominal plethora is best treated by laxatives and the limiting of animal food. This will often be found useful in vertigo of old age with excess of blood. The change brought about by a milk and vegetable diet is sometimes remarkable.

When the vertigo ceases to depend on the original cause, and becomes essential, he prescribes the same limited diet, after correcting the ocular defects. These patients must rest supine for an hour after each meal, spend much time out of doors, and take systematic exercise or **massage**. Near use of the eyes is to be avoided at first, and when their use is resumed, it should be by system, adding a minute a day, until the limit of easy use of the eyes is reached. Practice often enables patients to overcome the tendency to vertigo by increasing the control of the will.

VOMITING.

LAUDER BRUNTON says that the treatment of vomiting is to be directed to two ends: (1) *to remove the cause* if possible; and (2) *to lessen the irritability of the vomiting center*. The chief drugs which lessen the irritability of the vomiting center are **morphine**, bromide of potassium, chloral, and probably also hydrocyanic acid and belladonna. **Strychnine** and small doses of ipecacuanha are also useful in vomiting, and they probably owe their power to their action on the vomiting center. Most of these drugs have a local sedative action on the stomach, and therefore it is advantageous to give them by the mouth when possible. Even when the stomach is very irritable, they may be retained by giving them in a concentrated form. When the stomach will not retain them, they must be given by the rectum or by subcutaneous injection. In sea-sickness the effect of the position of the head is sometimes very marked, and the vomiting may sometimes be arrested completely by removing all pillows and putting the head on a level with, or rather lower than, the body.

In cases of disease of the brain or its membranes, where it is difficult or impossible to remove the cause, we must try to lessen the congestion by means of leeches and cold applications to the head; and also to soothe the vomiting center by hydrocyanic acid, or by **bromide of potassium**. At the same time, however, considerable benefit is obtained from the use of remedies which act locally on the stomach, these seeming to have some reflex effect upon the vomiting center. One of the most useful is **ice**, which may be constantly sucked, and also swallowed in small lumps. Where the vomiting is dependent on the action of poisons circulating in the blood, as in the later stages of contracting kidney, we must endeavor to eliminate these by increasing the action of the kidneys and the skin. In vomiting dependent on inflammation of the mouth and fauces, we lessen the irritability by soothing or astringent gargles, confections, or glycerines. A confection or glycerine is often better than a gargle, inasmuch as it remains longer attached to the parts, and thus exercises a more prolonged effect upon them. When vomiting is due to irritant substances in the cavity of the stomach, such as indigestible food, and acrid fluids or poisons, it is best treated by evacuating them. A large draught of lukewarm water, alone or mixed with a teaspoonful of mustard, is one of the best means. Large draughts of warm water alone, even if they are not ejected, may give relief by diluting the acrid substances in the stomach so much as to prevent their irritating the mucous membrane. In this way they sometimes relieve sick-headaches. It is of great importance sometimes, not only to prevent the formation of acrid substances by slow and imperfect digestion, but to prevent the mechanical irritation of the mucous membrane by undigested food. For example, we not unfrequently notice that sickness and vomiting will occur in susceptible individuals after meals containing such substances as are not only slowly digested, but are swallowed in lumps. Examples of these are uncooked apples and cheese, or even potatoes, especially when imperfectly boiled or new. These articles, instead of being crushed to a powder by the teeth, are swallowed in lumps of considerable size, and apparently, instead of passing the pylorus, are retained in the stomach, and, partly by the mechanical irritation,

tion, and partly by their giving rise to acrid products, cause sickness. Milk, when swallowed in large draughts, or when there is too much acidity in the stomach, instead of falling in fine flakes will coagulate in large lumps, which have a similar effect to the cheese. To relieve this it is advisable to mix the milk with soda-water or lime-water, or to take it, as in the whey cure, by sipping.

When vomiting is due to slow or imperfect digestion, which allows decomposition or fermentation of food to take place in the stomach, it may be arrested by improving the digestion. Thus five grains of **calomel**, by acting on the stomach through the liver, may arrest vomiting; and tincture of walnut (the active principle of which, **juglandin**, is a hepatic stimulant) has also been recommended. **Pepsine** also, by facilitating digestion, may prevent vomiting; and bitters, such as **calumba**, may do also, by preventing putrefaction or fermentation.

When decomposition or fermentation of food, with formation of acrid or irritating products, has once set in, it may continue a long time, as the organisms which cause it remain constantly in the stomach, and renew the process in every fresh supply of food. It may be stopped by antiseptics. Where the vomited matters are frothy and yeasty-looking, **sulphurous acid**, in doses of one fluid drachm, diluted with half a wine-glassful of water, often arrests such vomiting like a charm. **Creosote** has a similar action, but possibly has some additional action on the nervous system, as it is useful even in cases where the vomiting does not appear to be due to decomposition of food.

When the mucous membrane of the stomach itself is inflamed or irritated, we must try to lessen the irritation. The best drugs for this purpose are ice, hydrocyanic acid, opium and bismuth. The insoluble salts of bismuth, and especially the sub-nitrate, are to be preferred to the solutions; and it is advisable to combine them with magnesia, potash, soda, or carbonate of lime, according to the condition of the intestines, preferring the magnesia when the bowels are confined, and carbonate of lime when they are too loose. Sometimes the tendency to vomit is increased by lying on the right side. This is probably due to the drag of the stomach upon its cardiac extremity, and partly to the difficulty with which gaseous eructations escape from the stomach in this position.

When there is a tendency to vomit, therefore, the patient should lie down on the left side after a meal. In the vomiting of hepatitis, in addition to opium and hydrocyanic acid, we may use ice-water, or ice swallowed, and leeches over the liver. In biliary calculus, we may give, along with opium, a full dose of **ether** internally, and in addition may employ ether or chloroform by inhalation; similar treatment may be adopted in cases of renal calculus.

In intussusception or hernia we must remove the cause, if possible. In peritonitis full doses of opium are best. For the vomiting in cystitis and ovarian diseases, we must lessen the sensibility of the vomiting centers by the drugs already mentioned, and treat the local conditions.

In the vomiting of pregnancy we trust partly to the drugs already mentioned to act on the vomiting center, and partly to local applications. It is sometimes arrested by the application of a 10 per cent. solution of **nitrate of silver** to the os uteri, or by slight detachment of the membranes around the margin of the internal os. Where all other methods fail, the induction of premature labor must be resorted to.

A more efficient remedy than any mentioned by BRUNTON is **rest**. We have seen every remedy fail, and the vomiting promptly cured by forbidding all drinking of water or of anything else for the space of two hours.

For the vomiting of pregnancy the most efficient remedy is the **oxalate of cerium**. But the nervous character of this disease is well exemplified by the fact that the *new* remedy will be infallible until it fails *once*, and after that it will be useless; the patient reading the doubt in the physician's face.

WHOOPIING COUGH.

SQUIRE says that we have no specific for whooping cough; no drug to check its onset or stop its progress. The disease is of long duration, the patient a child. Hygienic conditions must be observed, and means used to prevent distress, reserving the more active remedies for special occasions. Rest and warmth, with much individual care, and the utmost attention to a sufficiency

of pure air, are requisite from the first, and indeed throughout the illness. It is not merely exposure to cold, but fatigue and injudicious food, that determines the accessions of fever so frequent in the course of whooping cough. These accessions have always with them an increase of the germs of the disease, more as a result than as a cause; they are better lessened or prevented by whatever aids the resisting powers of the child, than by close cossetting indoors, or the use of special germicides, except as a means of freshening the air of the room; an aggravation of all the symptoms follows the confinement of one or two sufferers to a single chamber. The diet is to be light and nutritious, milk forming an important element in the meal, and some addition to the ordinary food has often to be sought, whilst all things hard of digestion or irritating are to be avoided. Broth should be made with vegetables and without condiments; stewed fruit, orange or lemon juice, and grapes are grateful; some extra diluent is always requisite. Each child wants a good deal of help and ready assistance; some one should be near to calm from fright when the cough begins, and to raise and hold the child till the fit is over.

In the catarrhal stage, if the ingress be febrile, a day in bed may be right; the child is better indoors till this stage is over; the room must be changed two or three times a day, so that one is thrown open and freshened while the other is occupied, and then closed and warmed, in its turn, to be ready for use. Some simple saline, as **acetate of ammonia**, may be required, or ammonia in any dilute form. A sip of cold water often relieves cough, but at night some **ipecacuanha** will be needed; a teaspoonful of the wine, mixed with an ounce or two of sweetened water for the night, can be given by spoonfuls till the cough either lulls or ends in sickness. The **bromide of potassium** or ammonium in repeated doses, gr. iij-v, to the spoonful of water, gives relief at night in this stage, though more suitable to the next, when antispasmodics, of which **chloral** is the chief, are most wanted. No form of opium or of belladonna is to be used till the first stage is over, and secretion is free; nor while there is any local congestion or other source of irritation to be removed. A warm poultice of crushed linseed across the back of the chest is often of the

greatest use when the cough is teasing, and should always be applied if fine râles be heard, or if there be deficient expansion over any part of the lung. The first extension of bronchitis to the finer tubes excites spasm, for which a few small doses of any **antimonial** may be proper, if the child be robust and plethoric. In most cases ipecacuanha can be continued in small doses for some time; the emetic dose at night often soothes by emptying the stomach; this relief must not be sought too frequently, though children's stomachs soon recover from this effect of ipecacuanha after a sleep. The bromides of potassium and of ammonium can be continued throughout all the first and second stages with advantage. A solution of **carbolic acid**, two or three grains to the fluid ounce of water, may be beneficially given to children for several days together at the end of the catarrhal stage, in doses of a teaspoonful to an infant, and a tablespoonful to a child eight years of age, every six hours. The mode of action of carbolic acid is probably very much like that of hydrocyanic acid, once so much recommended in this complaint; it not only lessens spasm, but exerts some influence on the white corpuscles. Some of the soothing effect of spraying this solution of carbolic acid with a small steam vaporizer in a room may be from a part being absorbed. In many cases no medicinal treatment is needed, but there are others in which the child is obviously ill, with more than the usual fever; or, just when amendment is expected, and a freer secretion should come on, there is an increase of fever, with no marked complication. In these cases **quinine** should be given; one grain per diem in powder for each year of age, continued for two or three days, answers best; double this quantity at a single dose, and that repeated, has been given with good effect during the first four or five days of the spasmodic stage. The power of quinine in opposing the pyrogenic force of infection may be exercised through the white corpuscles, as explained by Bixz; it has been proved to control reflex excitability. The usual dose of **chloral** required by children is one grain for each year, given two, three or four times in the twenty-four hours, in proportion to the frequency and severity of the spasm. One great advantage in the use of both these remedies is that they can be given in enemata, either nutrient or stimulant.

Relief of spasm is the main object of treatment in the second or *spasmodic stage*, the efficacy of the means employed being measured by the diminution in the number of daily attacks. By this test **belladonna** comes next to chloral, if given in large and continued doses; with a child three years old, $\frac{1}{6}$ th to $\frac{1}{4}$ th a grain of the extract, or ten to fifteen minims of the tincture, is reached before the pupil is dilated; **atropine** divided into doses of $\frac{1}{80}$ th or $\frac{1}{100}$ th of a grain with sugar of milk, is a more certain way of getting the effect required, and regulating the quantity necessary to produce it. Minute doses of **morphine**, $\frac{1}{30}$ th of a grain, given with the **atropine**, or small doses of any opiate with belladonna, answer better than if given uncombined; but this addition is only permissible when the secretions are free, and the means of relief do not require frequent repetition; it is specially useful near meals, when food is ejected with the cough. **Oxalate of cerium**, two or three grains for children, ten grains night and morning for older persons, is of use here; or strong coffee given after meals. The liquid extract of **ergot**, one drachm a day, given in divided doses to children for two or three days, is said to control spasm. **Conium** reduces spinal irritability; a lozenge made with one grain of the extract, $\frac{1}{6}$ of a grain of ipecacuanha, and $\frac{1}{60}$ th of a grain of morphine, mixed with powdered sugar or treacle, can be given in the earlier spasmodic attacks of cough with advantage. A child three years old can take three or four of these in one day without nausea. Ten minims of the succus conii are equal to one grain of the extract. The tincture is equally active. Hydrobromate of conia, $\frac{1}{12}$ grain for a child, has been given. The inhalation of ether, ethyl-bromide, or of chloroform is not suitable for children. **Croton-chloral**, in doses half those of chloral, one or two grains in weak solution, or disguised in powder, given to children three or four times a day, lessens the force and frequency of the spasm. **Bromide of ammonium** is often all that is required, but nothing is so efficacious as chloral hydrate. Most of the remedies vaunted for cure of whooping-cough owe their repute to having been administered in the fifth or sixth week of illness, when other agents are said to have failed, and the disease is nearly over. Frictions across the back and chest with an oily liniment, to which oil of amber is

often added, or with belladonna and opium liniments combined, are useful. Spinal friction, or repeated use of a narrow poultice with a little mustard along the spine every night to cause temporary redness, has seemed to be of service. All the more potent means of counter-irritation, croton oil, blisters, and mustard poultices, are to be avoided, as well as leeches to the head.

In the *third stage* of whooping-cough some astringents are often of great use; and restorative means are much wanted. Alum is of decided benefit when excessive secretion is troublesome. So is tolu or ammoniacum. **Tannin**, and also oil of turpentine are used. Zinc in small doses is useful. One or two grains of the oxide may be given three or four times a day in powder, or half a grain of the sulphate in solution. An **emetic** may be required, to remove excess of mucus; zinc can at this time be added to the ipecacuanha, which alone is best for the earlier stages, when emesis is more often required. Purgatives are at no time advisable. A drop of laudanum before food stays sickness. The mineral acids make an agreeable aid to digestion. Bark or iron may be required, and cod-liver oil. Minute doses of **arsenic** with meals, and iodine externally over small spaces, on alternate days to back and front on either side, counteract obstinate adenopathy. Change of air has a remarkable effect in restoring appetite and removing spasm, after the disease is quite over; it should not be sought before six weeks, and is often better deferred till two months from the commencement of illness. If the tubercular diathesis have been set up or evoked, the greatest care in nursing and the most perfect quietude are essential. Great risks, without benefit, have been run by taking children to gasworks during the course of the complaint. Attempts to cut short the disease by inhalation or insufflations of germicides fail. A weak spray of carbolic acid in the room, or a solution of it, or of peroxide of hydrogen, on cloths or near the child's couch, or sprinkled about, do good by purifying the air.

LOOMIS speaks favorably of the carbolic acid spray and of **quinine**. Local applications do more harm than good.

HENCOX says that he has come to rely on one drug alone, viz., **morphine**, which at least moderates the violent paroxysms,

especially the nocturnal ones, and diminishes their frequency. But the mother must be warned to suspend the medicine if unusual drowsiness develop. He prefers this drug to atropine, but gives it only in cases where more than twenty paroxysms occur in twenty-four hours. In milder cases he recommends inhalations of **carbolic acid**, one to two per cent. If the spray apparatus be difficult to work, the air of the room may be impregnated with the vapor, a sponge dipped in the solution hung at the head of the bed, and occasionally held in front of the child's nose.

In fine weather the fresh air should be enjoyed as much as possible, but in windy weather, or where bronchitis is present, this should be strictly prohibited.

RINGER considers **lobelia** useful in the first stage.

BARTHOLOW pronounces **codeine** the most efficient antispasmodic. A slight hypnotic effect should be maintained constantly. The **bromides** moderate the violence of the spasmodic attacks. Of these the monobromide of camphor seems the best. Two to ten grains may be given every four hours. The very best results and often an arrest of the disease may be procured by full doses of **quinine**. Nitric acid has given excellent results. He thinks the supposed efficacy of inhaling the atmosphere of the gas works depends on the mental impression on the infants.

GERHARD recommends the fluid extract of the leaves of **castanea vesca** (**chestnut**) as an efficient remedy in many cases.

The injection of a solution of **quinine** into the pharynx has been lately commended.

There is no remedy with which we are acquainted which will certainly relieve every attack of whooping-cough. Bromide of ammonium helps in some cases, fails in others. The monobromide of camphor is more efficient, but can scarcely be put up in a form which patients can be induced to take. NIEMEYER mentioned the relief obtained by drinking a little solution of baking soda whenever the paroxysm is felt coming on. The alkali dissolves the mucus and it is then readily coughed up. We do not see how the solution can be of much use, as the spasm comes on too quickly for any such solvent action.

We have witnessed the good effects of the inhalation of illuminating gas too frequently to doubt its utility. The patient need not be sent to the gas-works, as all that is needed is to place the child in a small room and turn on the gas until it is unpleasantly strong in the air of the room. Great relief usually follows. We know of no single remedy which relieves as large a proportion of cases.

In cases of cough prolonged by habit, a removal to the seaside, vaccination, and a liberal use of the rod, have each had their advocates and their successes. The use of full doses of **quinine** is frequently effectual.

YELLOW FEVER.

HAENISCH advises the most thorough disinfection of vessels from sickly ports, and of their passengers and crew. Strict seclusion for two weeks will be requisite if recent cases have occurred on board the vessel.

Persons in an infected port should betake themselves to the hills, or inland beyond the reach of salt-water.

If compelled to remain in dangerous quarters, men should avoid all occasional causes, without becoming too anxious. The efficacy of prophylactics is very doubtful.

In the treatment of this disease there has as yet been no specific discovered. At the beginning a dose of castor oil or of calomel is given. Severe backache may call for dry cups or a blister to the lumbar region. Hypodermic injections of **quinine** are the best remedies for the fever. If the vomiting of blood be copious, ice and styptics may be given internally, and iced compresses applied to the epigastrium.

DAVIS advises that from six to twelve **leeches** be applied to the epigastrium, or cups to the spine, with sinapisms over the stomach, a hot mustard bath to the feet, and cold cloths to the head. The whole body may be sponged with cold water, and the following mixture given internally:

℞ Acid. carbolic,.....gr. viij
Glycerini,.....3 iv

Tinct. gelsemii,.....	f 3 iv
Tinct. veratri viridis,.....	3 jss
Tinct. opii camph.,.....	3 ij
Aquæ,.....	f 3 ij

M. S.—A teaspoonful every two to four hours.

Also, two grains of **calomel** alternately with the mixture.

If the case be located in a malarial district he gives **quinine** in full doses. If the bowels do not move after six powders of calomel have been taken, he administers a saline laxative. Then the calomel is replaced by a diaphoretic mixture, and this is continued until the end of the second day.

If the temperature be then lowered, the restlessness and pains abated, the urine more free and not very albuminous, the skin moist and the patient hopeful, he omits the veratrum, but continues the remainder of the treatment until convalescence is established or the yellowness begins to appear. The patient must then be kept entirely at rest, and only the most bland articles of food be taken. Small and frequent doses of tincture of iron, the turpentine emulsion, quinine or strychnine, appear to be the best remedies in this condition. The last two can be given hypodermically, and the food by enemata. Subsequently the feeding should be done with the greatest care.

It is well known in cities where yellow-fever is prevalent, that the hills are safe from its attacks. The poison is active only after sunset, until sunrise, and hence prudent people do not venture down into the low portions of the city during the night.

All sorts of excesses predispose to yellow fever; particularly venereal excess. It is best to keep the stomach full, as a hungry man will more readily be attacked.

There is scarcely a hope for the habitual consumer of alcohol if he be once seized. Our own experience has been that the drinker was more liable to be attacked than the tee-totaler.

Ships anchored some distance from the shore are safe.

The filthiest places in a city are the most dangerous; especially the points where sewers discharge their contents.

A very successful method of treatment in the hospitals of Rio de Janeiro consisted in putting the patient to bed, covering him with a blanket, and giving **nothing**, except a sup of water occasionally. The physicians argued that it is useless to put into

the stomach food which cannot be digested, and which will be sure to bring on vomiting; while the whole course of the disease is too short to cause any risk from the deprivation of food.

A priori, we would say that if there be a disease in which the use of **cold baths** is indicated, it is this; for a temperature above 105° is almost surely fatal, while if the fever do not reach that point the case is almost sure to recover. Besides this, the intense renal hyperemia (in which lies the chief danger) demands the speediest relief; such as can only be obtained from the local use of cold.

But in the New Orleans epidemic of 1879, the antipyretic system was faithfully tried with but meagre results.

Unsatisfactory as are the therapeutics of yellow fever, we have learned one lesson in modern times: that thorough cleanliness is a certain preventive.







NOV 4 1974

1971

B

NATIONAL LIBRARY OF MEDICINE



NLM 00101520 7